STATEMENT OF WORK

FOR

MAINTAINING, PICKING-UP, REPAIRING, DELIVERING, AND SETTING-UP

EXISTING AND REPLACEMENT

RAISIN INSPECTION EQUIPMENT

Performance Based Statement of Work

Agricultural Marketing Service
Fruit and Vegetable Programs
Processed Products Branch
Wage Grade Workers, Raisin Marketing Order
Fresno Field Office, Fresno, California

SECTION C-1.
GENERAL INFORMATION.

Agricultural Marketing Service (AMS), Fruit and Vegetable Programs (F&V), Processed Products Branch (PPB) provides inspection and grading services for processed fruits and vegetables and related products on a user fee basis. The PPB's Fresno Field Office is strategically located in the center of the raisin production area where the inspection and grading of raisins occurs. The Fresno Field Office inspects and grades raisins under the industry's Raisin Marketing Order and employs about 70 career graders and staff and another 300 to 400 seasonal mixed tour graders. In addition, it employs wage-grade workers who maintain and repair the mechanical equipment used to assist in grading raisins.

C-1.1. SCOPE OF WORK.

C-1.2. CONTRACTOR PERSONNEL.

C-1.2.1. Contract Manager. The contractor shall provide a contract manager who shall be responsible for the performance of the work. The name of this person, and or alternates who shall act for the contractor when the manager is absent, shall be designated in writing to the contracting officer.

C-1.2.1.1. The contract manager or alternate shall have full authority to act for the contractor on all contract matters relating to daily operation of this contract.

C-1.2.1.2. The contract manager or alternate shall be available during normal duty hours to meet with government personnel (designated by the contracting officer) to discuss problem areas.

C-1.2.1.3. The Contract manager and alternate must be able to read, write, speak and understand English.

C-1.2.2. Contractor Employees. The contractor shall not employ persons for work on this contract if such employee is considered by the contracting officer to be a potential threat to the health, safety, security, general well being or operational mission of the installation and its population.

C-1.2.2.1. Contractor personnel shall present a neat appearance and be easily recognized as contractor employees. They must wear an official badge provided by the USDA designating them as contracted employees. They must also wear a white hair net and bump hat provided by the USDA at all times when in the food processing areas. They must wear bump hats in the dehydrator and incoming lab areas.

Note: FAR 37-114 (c) requires that contractor personnel attending meetings, answering phones, and working in other situations where their status is not obvious are required to identify themselves as such to avoid creating the impression that they are Government officials.

C-1.2.2.2. The contractor must make sure all employees have a current and valid State of California Driver's License.

C-1.2.2.3. The contractor shall not employ any person who is an employee of the U.S. Government if employing that person would create a conflict of interest.

C-1.2.3. Technical Advice. The government will provide technical advice to the contractor and to the contract manager or alternate on an ongoing basis. There will be no training provided to the contractor's employees.

C-1.3. QUALITY CONTROL. In compliance with the contract, the contractor shall provide a Quality Control Plan with their proposal that contains, as a minimum, the items listed in C-1.3.2. to the contracting officer for evaluation against the evaluation factor contained in Section M of the solicitation. The contractor shall make any modifications required to the plan and obtain government approval before the contract start date.

C-1.3.2. The plan shall include:

C-1.3.2.1. A description of the inspection system to cover all services listed. The description shall include specifics as to the areas to be inspected on both a scheduled and unscheduled basis, frequency of inspections, and the personnel who perform the inspections.

C-1.3.2.2. A description of the methods to be used for identifying and preventing defects in the quality of service performed.

C-1.3.2.3. A description of the records to be kept and made available to the contracting officer, when requested, throughout the contract performance period and for the period after contract completion until final settlement of any claims under this contract.

C-1.4. QUALITY ASSURANCE. According to the contract, the government will evaluate the contractor's performance under this contract. The Contracting Officer's Technical Representative (COTR) or evaluators will follow the methods of surveillance specified in this contract. Government personnel will record surveillance observations. When an observation indicates defective performance, the COTR will require the contract manager or representative at the site to initial the observation. The initialing of the observation does not necessarily constitute concurrence with the observation, only acknowledgment that he or she has been made aware of the defective performance. Surveillance will be done according to standard inspection procedures or other contract provisions. Any action taken by the contracting officer as a result of surveillance will be in accordance with the terms of this contract.

C-1.4.1. Performance Evaluation Meetings. The contracting officer may require the contract manager to meet with the contracting officer, contract administrator, COTR, and other government personnel as deemed necessary. The contractor may request a meeting with the contracting officer when he or she believes such a meeting is necessary. Written minutes of any such meetings shall be recorded in the contract file and must be signed by the contract manager, the contracting officer or contract administrator. If the contractor does not concur with any portion of the minutes, such nonconcurrence shall be provided in writing to the contracting officer within 10 calendar days following receipt of the minutes.

C-1.5. PHYSICAL SECURITY. The contractor shall be responsible for safeguarding all government property provided for contractor use. At the end of each work period, all government facilities, equipment and all materials shall be secured.

C-1.6. HOURS OF OPERATION.

C-1.6.1. Normal Hours of Operation. The contractor shall perform the services required under this contract during the following hours: 8:00 AM to 4:30 PM, Monday through Friday. 8:00 AM to 4:30 PM is considered 8 working hours.

C-1.6.1.1. Holidays. The contractor will not be required to work the days designated as Federal holidays: New Years Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, and Christmas Day.

C-1.7. CONSERVATION OF UTILITIES. The contractor shall make sure employees practice conservation of utilities. The contractor shall be responsible for operating under conditions that prevent the waste of utilities to include:

C-1.7.1. Lights shall be used only in areas where work is actually being performed.

C-1.7.2. Employees shall not adjust mechanical equipment controls for heating, ventilation, and air conditioning systems.

C-1.7.3. Water faucets, valves, heating and air conditioning valves shall be turned off when not in use and at the end of the day.

C-1.8. RECORDS. The contractor shall be responsible for creating, maintaining, and disposing of the following records: service records including work orders, records resulting from the implementation of the contractor's Quality Control Plan, and records required by the Performance Work Statement.

C-1.8.1. If requested by the Government, the contractor shall provide the original record, or a reproducible copy of any such record within 5 working days of receipt of the request. The records must be kept on file for 3 years.

SECTION C-2.
DEFINITIONS

C-2. DEFINITIONS

C-2.1. GENERAL DEFINITIONS

Contracting Officer - The government employee responsible for executing/administering and providing direction on the contract, the Contracting Officer for the USDA, AMS, Fruit & Vegetable Programs, Processed Products Branch.

COTR - Contracting Officer's Technical Representative. Assists the Contracting Officer when requested by the Contracting Officer.

Quality Assurance Plan- This is the plan provided by the government to determine whether a contractor has fulfilled their contract obligations pertaining to quality and quantity.

Surveillance - This is monitoring the provisions of the Performance Work Statement and the contractor's Quality Control Plan by the COTR.

Quality Control Plan - This is a plan provided by the contractor and is what is referred to as the technical requirements in the contract relating to the quality of the service prescribing inspections and other quality controls incumbent on the contractor to assure that the service conforms to the contractual requirements.

Government - This term refers to the United States Department of Agriculture, Agricultural Marketing Service, Processed Products Branch, Fresno Field Office, Fresno, California.

SECTION C-3.
GOVERNMENT-FURNISHED PROPERTY AND SERVICES.

C-3.1. GENERAL INFORMATION. The government shall provide facilities and shop equipment as described in *Exhibits 1 and 2.*

C-3.2. GOVERNMENT FURNISHED PROPERTY:

C-3.2.1. GOVERNMENT-FURNISHED FACILITIES. The government shall furnish or make available facilities described in *Exhibit 1.* The government-furnished facility is space in the government leased building at 2202 Monterey Street, Fresno, California 93721. The space is approximately 47'5" by 27'9". No modifications of the facilities shall be made without specific written permission from the contracting officer is given. The contractor shall return the facilities to the government in the same condition as received, fair wear and tear and approved modifications excepted. These facilities shall only be used in performance of this contract.

C-3.2.2. GOVERNMENT-FURNISHED SHOP EQUIPMENT. The government shall provide the contractor with shop equipment listed in *Exhibit 2.*

C-3.2.2.1. INVENTORY OF SHOP EQUIPMENT. An inventory of government furnished equipment must be completed not later than 30 calendar days before the start of the contract, within 30 calendar days of the start of the option period, and not later

than 7 calendar days before the completion of the contract period (including option periods). The contractor and the COTR or other government representative shall jointly determine the working order and condition of all equipment and document their findings on the inventory. In the event of disagreement between the contractor and the government representative on the working order and condition of equipment, the disagreement shall be treated as a dispute under the contract clause entitled "Disputes."

C-3.2.2.2. REPLACEMENT OF UNUSABLE SHOP EQUIPMENT. The contractor shall submit requests for replacement of unusable government-furnished shop equipment to the COTR for processing. Unusable equipment is equipment that can not be repaired. Such requests shall specify the reason for the need for the replacement request. The contractor must submit a written order for replacement equipment to the COTR at least 2 calendar days after the break down of the equipment and the determination by the contractor that it is unusable.

C-3.2.2.2.1. Lathe. If for some reason the lathe becomes unusable, it will not be replaced.

C-3.2.2.3. RETURN OF UNUSABLE SHOP EQUIPMENT. The contractor shall return unusable equipment to the government for possible salvage parts prior to the COTR authorizing the processing of replacement equipment.

C-3.2.3. GOVERNMENT-FURNISHED MATERIALS. The government will provide the materials listed in *Exhibit 3 and 4* for performance of services by the contractor for the duration of the performance of the contract. The initial stock of materials provided shall be inventoried not later than 7 working days before contract start by the contractor and a government representative designated by the contracting officer. The contractor shall be responsible for keeping enough materials on hand for the performance of the contract according to its terms. If additional materials are authorized by the contract, the contractor shall request such additional materials by providing written request to the COTR at least 2 calendar days before the required delivery date of the materials. At the conclusion of the contract period, including any option period, the contractor shall return all residual inventory to the government.

C-3.2.4. GOVERNMENT-FURNISHED EQUIPMENT PARTS. The government will supply parts for the shop equipment and the raisin inspection equipment as described in *Exhibits 3 and 4*. The contractor must submit a written order for parts to the government by providing written request to the COTR at least 2 calendar days after the break down of the equipment.

C-3.2.4.1. The contractor shall retain the unusable parts that are replaced for at least 10 working days after completion of the job and make these parts available for inspection by the COTR upon request.

C-3.3. GOVERNMENT FURNISHED SERVICES

C-3.3.1. Government Furnished Utilities. The government will provide utilities in the government-furnished facility.

C-3.4. GOVERNMENT-FURNISHED RECORDS.

C-3.4.1. The government shall furnish one years' Service Work Orders, one year's Airstream Sorter Maintenance Checklists, and a print-out of all raisin inspection equipment showing serial numbers and/or identification numbers. Also, provided will be the names of the plants (field locations) where raisin equipment will be serviced; the addresses and types/number of raisin equipment at each location is included in the Performance Work Statement (*Exhibit 5)*. All other pertinent records are provided in the Performance Work Statement.

C-4. CONTRACTOR-FURNISHED ITEMS AND SERVICES

C-4.1. GENERAL INFORMATION. The contractor shall provide all labor, supervision, tools, materials, and transportation necessary to deliver, maintain, repair, pick-up, and set-up existing and replacement raisin equipment.

C-4.1.1. All services performed by the contractor must be done either at the government-furnished facility or at one of the field locations.

C-4.1.2. The contractor shall not neglect or misuse the equipment.

C-4.1.3. CLEAN -UP. The contractor will not allow debris to accumulate in the shop work area or in the field location where a job is being done or has been completed. The contractor shall clean-up all debris including water spills at the end of each job and remove all remaining debris at completion of each job.

C-4.1.4. WORK RECEPTION DESK. The contractor shall operate and maintain a Trouble Telephone/Work Reception Desk at the Government-Furnished Facility during normal hours of operation (8:00 AM to 4:30 PM) Monday through Friday, excluding Federal holidays, to receive work orders.

C-4.1.5. ACCIDENTS AND VANDALISM DAMAGE. The work required to repair equipment damaged by accidents and vandalism shall be performed at no additional cost to the government.

C-4.1.6. DISPUTES ON MATERIAL, EQUIPMENT, AND PARTS. When disputes arise concerning material, equipment, and parts selected by the Contractor to repair or maintain equipment, the Contractor shall, at no cost the government, remove, replace and/or rework the equipment at the request of the COTR so that compliance with the Performance Work Statement are satisfied.

C-4.2. SPECIFIC INFORMATION. The contractor shall maintain, pick-up, repair, deliver, and set-up existing and replacement: air stream sorters, micro sand washers, dried fruit moisture testers, sizers, grinders, scales, rehydrating and dehydrating ovens, Denver splitters, Yankee rotators (micro shakers), mico filter systems, bag fillers, bicycles, inspection lighting, hot plates, and office furniture which includes desks, file cabinets, stools, wall cabinets, and chairs for the labs. See *Exhibit 6* for a list of raisin inspection equipment and the current quantity of each.

The main objective is to have all equipment ready at the start of the season which is usually August 15th.

Throughout the year, the contractor shall deliver, maintain, repair and pick-up all of the existing and replacement equipment which periodically breaks down from normal usage. In addition, the contractor shall deliver and pick-up equipment when there are plant openings and closures. Pick-up and delivery may be to and from field locations and storage locations. The contractor should maintain an inventory of all the equipment at all times. The repairing of equipment at the lab facilities during the season must not interrupt lab procedures and/or plant operations.

C-5. SPECIFIC TASKS

C-5.1. SERVICE REQUESTS. The contractor shall maintain and repair existing and replacement raisin equipment. The contractor will accept routine service requests by phone or written work orders from the government and will provide service within 1 working day of receiving the routine phone or work order service request. The contractor will repair equipment when 1) there are routine service requests either by phone or by written work order, 2) the contractor provides the required regular maintenance, and 3) through trouble shooting. Trouble shooting is when the contractor's employee is at a field location and a government employee is having a problem with a piece of equipment, the contractor's employee is asked to look at the equipment to see if there can be an immediate resolution to the problem.

C-5.2. SERVICE REPORTS. The contractor shall prepare and submit a written report of maintenance or repair work within two-business days of completion of the service. The report shall identify each type of equipment serviced, work done, the field location, and the contractor's employee providing the service.

C-5.2.1. A copy of the "Written Service Work Order Request" that the contractor is required to use is attached as *Exhibit 7* (see Section I. 4. of the solicitation). This form may be revised by the government.

C-5.3. RAISIN INSPECTION EQUIPMENT INVENTORY. An inventory of raisin inspection equipment must be completed not later than *30 calendar days* before the start of the contract, within *30 calendar days* of the start of the option period, and not later than *7 calendar days* before the completion of the contract period (including option periods). The contractor and the COTR or other government representative shall jointly determine the working order and condition of all equipment and document their findings on the inventory. In the event of disagreement between the contractor and the government representative on the working order and condition of equipment, the disagreement shall be treated as a dispute under the contract clause entitled "Disputes."

C-5.3.1. The contractor shall prepare a written inventory report.

C-5.4. CONDITION OF RAISIN INSPECTION EQUIPMENT. All equipment has been maintained and repaired within the last year, has been kept in operable condition, and will be kept in operable condition. Operable condition is defined for each piece of equipment in its respective section of this Statement of Work. However, because repair is an ongoing process, there will be some equipment that is in need of repair at the time the contract is awarded. At that time, a list of equipment in need of repair will be provided to the contractor.

C-5.5. REPLACEMENT OF UNUSABLE RAISIN INSPECTION EQUIPMENT. The contractor shall submit requests for replacement of unusable raisin inspection equipment to the COTR for processing. Unusable equipment is equipment that can not be repaired. Such requests shall specify the reason for the need for the replacement request. The contractor must submit a written order for replacement equipment to the COTR at least 2 calendar days after the break down of the equipment and the determination by the contractor that it is unusable.

C-5.6. RETURN OF UNUSABLE RAISIN INSPECTION EQUIPMENT. The contractor shall return unusable raisin inspection equipment to the government for possible salvage parts prior to the COTR authorizing the processing of replacement equipment.

C-5.7. RAISIN INSPECTION EQUIPMENT is as follows:

C-5.7.1. AIR STREAM SORTERS. The Air Stream Sorter is a piece of equipment used for sorting samples of natural-condition raisins on the basis of maturity and immature raisin content. The machine sorts a 1,000 gram sample of raisins in 4 to 10 minutes, whereas the hand-sorting method requires more than an hour. Results from the machine are more precise than those from hand sorting. Machines will produce equivalent results to each other if air velocity and temperature are controlled accurately. See *Exhibit 8* for a picture, diagrams, and specifications.

C-5.7.2. MICRO SAND WASHERS. The micro sand washer is a machine used to simulate the wash used in the processing of raisins. Micro sand washing is part of the process to test for sand and microorganisms in raisins. The heaviest use of these machines is during the receiving of raisin from the growers to the packers during the months of August to December. They are used year around in the micro labs. See *Exhibit 9* for a picture, diagrams, and specifications.

C-5.7.3. DRIED FRUIT MOISTURE TESTERS. This is a piece of equipment that tests the amount of moisture in a raisin sample. The moisture tester is a type A series that was developed by the Dried Fruit Association of California. The moisture tester measures the conductance in ground raisins. See *Exhibit 10* for a picture, diagrams, and specifications.

C-5.7.4. SIZERS. A sizer is a mechanical screen that determines the size of raisins. It mechanically reproduces the backward and forward motion given in hand sieving, but with uniform mechanical action producing dependable sizing tests. This mechanical screen analysis is more accurate, rapid and more convenient than hand sieving. See *Exhibit 11* for a picture, diagrams, and specifications.

C-5.7.5. GRINDERS. This equipment grinds raisins for use in the moisture machine. This is part of the process used to determine moisture content in raisins. The outgoing lab inspection grinder *(Exhibit 12)* is a 16-tooth hand grinder cutter assembly that has been adapted to fit an electric motor. The incoming lab inspection grinder *(See Exhibit 13 for a picture, diagrams, and specifications)* is a motorized grinder with a head that has 3/16 inch front plate holes.

C-5.7.6. SCALES. There are four different types of scales used in raisin inspection. They are Triple Beam, Toledo, Mettler, and SK-2000. These are all commercial scales with manufacturer's specifications. See *Exhibit 14* for the Triple Beam, *Exhibit 15* for the Toledo, *Exhibit 16* for the Mettler, and *Exhibit 17* for the SK-2000 for pictures, diagrams, and specifications.

C-5.7.7. REHYDRATING AND DEHYDRATING OVENS. This equipment is used to rehydrate raisins when moisture tests are too low to read on the Moisture Tester and used to dehydrate raisin when moisture is too high to read on the Moisture Tester. Ovens are made of galvanized sheet metal with four metal trays used to hold raisin and one bottom metal pan used to hold water. Ovens are also equipped with a thermostat, heating element and fan. See *Exhibit 18* for a picture, diagrams, and specifications.

C-5.7.8. DENVER SPLITTERS. This equipment mixes raisins to form a representative sample of raisins. Each splitter consists of a heavy metal hopper with a series of chutes opening at the top and bottom. Alternate chutes open in opposite directions, thus splitting the sample into equal parts. The splitters are constructed of 22 gauge galvanized sheet metal. Each splitter contains 12 one inch wide riffles that alternate backward and forward. See *Exhibit 19* for a picture, diagrams, and specifications.

C-5.7.9. YANKEE ROTATORS (Micro Shakers). This is a rotating shaker used to agitate a flask. The Yankee Rotator is part of the process to determine infestation in the micro department. The rotating shaker holds a 2000 ml flask that agitates a sample for three minutes. See *Exhibit 20* for a picture.

C-5.7.10. MICRO FILTER SYSTEMS. This equipment is a suction filtering system that separates raisin pulp from the liquid part of the raisin sample after boiling. See *Exhibit 21* for a picture.

C-5.7.11. BAG FILLERS. This equipment is used assist in filling raisins into number 16 bags. These bag fillers are used during incoming raisin season which is August through November. *See Exhibit 22* for a picture.

C.5.7.12. BICYCLES. Bicycles are equipment used for transportation of government employees and sample bags to get from one place within the field location to another place, such as, from the raisin incoming dock to the incoming lab. All bicycles must be equipped with fenders and baskets. See *Exhibit 23* for a picture, diagrams, and specifications.

C-5.7.13. INSPECTION LIGHTING. This equipment is used in the illumination of product in the grading of raisins. There are three types of lighting used. They are Portable Exomolite, Permanent Examolite (MacBeth), and Goose neck Lamp. See *Exhibit 24* for a picture of the portable examolite, *Exhibit 25* for a picture of the permanent examolite (MacBeth), and *Exhibit 26* for a picture of the goose neck lamp.

C-5.7.14. HOT PLATES. This is equipment that is used to heat pans of water. Hot plates are used to boil water and raisins so that further tests may be done for sand, mold, and micro tests. See *Exhibit 27* for a picture.

C-5.7.15. OFFICE FURNITURE. Office furniture includes desks, file cabinets, wall cabinets, stools, and chairs.

C-5.8. MAINTENANCE:

C-5.8.1. Overall maintenance inspection checks must be done at least one a year on all equipment. All equipment and parts must be kept at the existing state of repair as when the contract is awarded and must be preserved from failure or decline.

C-5.8.2. Air stream sorter

C-5.8.2.1. Maintenance includes but is not limited to: cleaning, tear down (i.e., removal of plexiglass, removal of tapes, removal of gaskets) re-assembly, and checking for air leaks. *See Exhibit 28 - Air Stream Sorter Maintenance Checklist.*

C-5.8.2.2. Between January 1 and July 31 each year, all 127 air stream sorters must be cleaned and repaired on a rotating basis because they are in continual use in the field locations and must be scheduled for maintenance. The scheduling for maintenance will be done by work orders provided by the government. The air stream sorters must be adjusted to operable condition. Operable condition means being able to adjusting the pressure setting at .33 for Zantes, .48 for Natural Thompson (substandard), and .67 for Natural Thompson Seedless (B or Better) and the pressure settings will be stabilize at those readings. This indicates the system is air tight and operable. Air temperature must be constant at 90 degrees $\pm$ 1 degree. During this air tight operation the raisins must move on a feed belt that operates at 6 RPMs with a front baffle setting 1 7/16 for the small hopper and 1 3/16 for the large hopper. Operable condition includes cleaning the equipment.

C-5.8.2.3. After maintenance, the Contractor must make the air stream sorters available to

the government for standardization for 2 days prior to delivery back to the field location.

C-5.9.3. Micro Sand Washers

C-5.9.3.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. Inspect and check all mechanical and electrical parts for damage. In-line filters must be cleaned once a year and more often during heavy use which is from August through November. Spray tips must be changed once a year to insure proper volume of spray. August 1 through August 15 each year, machines must be started and run through a complete cycle. Sand washers must be clean and free of rust prior to delivery and set-up in field locations.

C-5.9.4. Dried Fruit Moisture Testers, Micro Filter Systems, and Bag Fillers

C-5.9.4.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. An overall maintenance inspection check must be done at least once a year.

C-5.9.5. Sizers

C-5.9.5.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. An overall maintenance inspection check must be done at least once a year. Inspect, check, and adjust all components for damage and proper operation. Equipment will be cleaned prior to repair and prior to delivery to the field locations.

C-5.9.6. Grinders

C-5.9.6.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. An overall maintenance inspection check must be done at least once a year. Inspect and check all components for damage and proper operation. Sharpen cutter knife in both the 16-tooth hand grinder cutter assembly and the incoming grinder. Equipment will be cleaned prior repair and prior to delivery to the field locations.

C-5.9.7. Scales

C-5.9.7.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. Inspect for accuracy according to manufacturer's

specification for each scale. This inspection must be done between January 1 and July 31 each year. Clean according to manufacturer's specification.

C-5.9.8. Rehydrating and Dehydrating Ovens

C-5.9.8.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. An overall maintenance inspection check must be done at least once a year. Inspect and check all component parts for damage and proper operation. Ovens must be clean and free of rust.

C.5.9.9. Denver Splitters

C-5.9.9.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. An overall maintenance inspection check must be done at least once a year. Equipment will be cleaned prior to delivery to the field locations.

C-5.9.10. Yankee Rotators

C-5.9.10.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. An overall maintenance inspection check must be done at least once a year. Inspect and check all component parts and electrical parts for damage.

C-5.9.11. Bicycles

C-5.9.11.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. An overall maintenance inspection check must be done at least once a year. Bicycles must be cleaned prior to delivery to field locations.

C-5.9.12. Inspection Lighting

C-5.9.12.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. An overall maintenance inspection check must be done at least once a year. Inspect and check electrical wiring, switches and lamps for damage. Replace lamps to government's specification which is MacBeth for the Examolite, and 100 watt Teflon coated safety bulb for both the Goose neck and Swivel Base lamps.

C-5.9.13. Hot Plates

C-5.9.13.1. Inspect and check all parts to keep up the existing state of repair and preserve from failure or decline. An overall maintenance inspection check must be done at least once a year. Inspect and check all parts to determine if the hot plate can heat up and can boil water.

C-5.9.14. Office Furniture

C-5.9.14.1. No maintenance required.

C-5.10. PICK-UP

C-5.10.1. Airstream sorter

C-5.10.1.1. The contractor must pick-up each air-stream sorter from the field location each year between January 1 and July 31 and deliver to the Government Furnished Facility for maintenance.

C-5.10.1.2. The contractor will pick-up an air-stream sorter when the contractor is notified by the government that an air stream sorter is in need of repair or the contractor determines that one is in need of repair. The equipment must be picked-up within 1 working day of notification by the government.

C-5.10.2. Micro Sand Washers, Dried Fruit Moisture Testers, Sizers, Grinders, Scales, Rehydrating and Dehydrating Ovens, Denver Splitters, Yankee Rotators, Micro Filter Systems, Bag Fillers, Bicycles, Inspection Lighting, and Hot Plates.

C-5.10.2.1. The contractor will pick-up the equipment when the contractor is notified by the government that one is in need of repair or the contractor determines that one is in need of repair. The equipment must be picked-up within 1 working day of notification by the government.

C-5.10.3. Office Furniture

C-5.10.3.1. The contractor will pick-up office furniture when notified by the government that office furniture needs to be picked up. The contractor will pick-up office furniture when there are plant closures and openings and when replacement furniture is needed at the field locations as requested by government work order. The equipment must be picked-up within 1 working day of notification by the government.

C-5.11. REPAIR

C-5.11.1. Air stream sorter

C-5.11.1.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. Examples include but are not limited to: repair electrical wiring; replace thermostat; make minor adjustments; weld; solder; replace mechanical parts; replace electrical parts; paint by preparing metal surface by sanding and/or wire brushing to remove lose or flaking paint, then clean to a smooth surface prior to painting. The air stream sorters must be repaired to operable condition. Operable condition means being able to adjusting the pressure setting at .33 for Zantes, .48 for Natural Thompson (substandard), and .67 for Natural Thompson Seedless (B or Better) and the pressure settings will be stabilize at those readings. This indicates the system is air tight and operable. Air temperature must be constant at 90 degrees $\pm$ 1 degree. During this air tight operation the raisins must move on a feed belt that operates at 6 RPMs with a front baffle setting 1 7/16 for the small hopper and 1 3/16 for the large hopper. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.2. Micro Sand Washers

C-5.11.2.1. After determining the malfunction, resolve the problem(s) by repairing and/or replacing parts. Examples include but are not limited to: repair electrical problems; repair mechanical problems; adjust; weld; replace mechanical and electrical parts such as, solenoids and timer. Repair must be done within 5 working days.
See Exhibit 29 - Procedures for Micro Sand Washer Timing Adjustment

C-5.11.2.2. All sand washers must be repaired to operable condition. Operable condition includes cleaning the equipment. Operable condition means: The pump motor must pump out the water during the timing cycle. The spray tips must spray evenly across the product during the spray cycle. The machine must agitate back and forth sixty times a minute during the cycle. The sink must fill to one inch during the fill cycle at 50 degrees.

C-5.11.3. Dried Fruit Moisture Testers

C-5.11.3.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. Repair to operable condition. Operable condition is when on tap setting three, the test electrode reading is 35.5 $\pm$ 1% and when on tap setting six,

the test electrode the reading is 83.5 ± 1%. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.4. Sizers

C-5.11.4.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. Examples include but are not limited to: replace assemblies, replace electrical components, replace parts, replace timer, and weld. Equipment will be cleaned prior to maintenance and repair and prior to delivery to the field locations. *All sizers must be repaired to operable condition. Operable condition means: The sizer is able to shake at 216 RPMs with four sizing pans securely in place for five minutes.* Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.5. Grinders

C-5.11.5.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. Examples include but are not limited to: replace broken parts, solder, weld, paint by preparing the surface prior to painting then painting, and replace electrical parts. All grinders must be repaired to operable condition. Operable condition means that a grinder is able to grind raisins into a smooth consistency. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.6. Scales, Inspection Lighting, and Hot Plates

C-5.11.6.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. All scales, inspection lighting, and hot plates must be repaired to operable condition. Operable condition means repairing and adjusting to manufacturer's specifications. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.7. Rehydrating and Dehydrating Ovens

C-5.11.7.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. All Rehydrating and Dehydrating ovens must be repaired to operable condition. Operable condition means the oven fan blows air, the heating element gets hot, the thermostat regulates temperature at 110 degrees ± 1 degree and holding pan holds water. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.8. Denver Splitters

C-5.11.8.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. Examples include but are not limited to: fabricate and assemble chutes; install new chute assemblies; paint by preparing the surface prior to painting then painting; spot weld, arc weld, and sharp edges must be eliminated. All Denver Splitters must be repaired to operable condition. Operable condition means chutes mix samples into evenly mixed parts. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.9. Yankee Rotators

C-5.11.9.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. All Yankee Rotators must be repaired to operable condition. Operable condition means that it rotates with a flask at 180 RPMs. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.10. Micro Filter Systems

C-5.11.10.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. All Micro Filter Systems must be repaired to operable condition. Operable condition means that the suction filtering system separates all the sample pulp from the liquid with the pulp remaining on the dry filter paper and the liquid remaining in the flask. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.11. Bag Fillers

C-5.11.11.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. Examples include but are not limited to: replace broken parts, solder and weld damaged and loose parts. Sharp edges in galvanized sheet metal must be eliminated. Paint frame; paint by preparing the surface prior to painting then painting. All bag fillers must be repaired to operable condition. Operable condition means when a 16 pound raisin sample can be poured through the bag filler into a number 16 bag without spillage. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.12. Bicycles

C-5.11.12.1. After determining a malfunction, resolve the problem by repairing and/or replacing parts. Repair includes installing fenders and baskets on new bicycles. Examples include but are not limited to: Repair or replace tires, tubes, and parts. All bicycles must be repaired to operable condition. Operable condition means repairing and adjusting to manufacturer's specifications. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.11.13. Office Furniture

C-5.11.13.1. After determining malfunction, repair and/or replace parts that malfunction. All office furniture must be repaired to operable condition. Operable condition means file cabinet drawers open and close, file drawer locking mechanisms work; desk drawers open and close; and chair adjustments and rollers work. Operable condition includes cleaning the equipment. Repair must be done within 5 working days.

C-5.12. DELIVERY

C-5.12.1. Air stream sorters

C-5.12.1.1. Any time air stream sorters have been picked-up for repair, a replacement (which has already been standardized) is necessary to be delivered to that field location within 4 working hours. Any time air stream sorters have been picked-up for maintenance, they shall be delivered back to the same field location ONLY after standardization by the government. Delivery includes placing the air stream sorters in the position requested by the government and/or plant personnel.

C-5.12.2. Micro Sand Washers, Dried Fruit Moisture Testers, Sizers, Grinders, Scales, Rehydrating and Dehydrating Ovens, Denver Splitters, Yankee Rotators, Micro Filter Systems, Bag Fillers, Bicycles, Inspection Lighting, and Hot Plates.

C-5.12.2.1. Any time equipment has been picked-up for repair, a replacement is necessary to be delivered back to that field location within 4 working hours. Delivery includes placing equipment in the position requested by the government and/or plant personnel.

C-5.12.3. Office Furniture

C-5.12.3.1. The contractor shall deliver office furniture to and from field locations and storage

locations. Delivery includes placing the furniture, desks, file cabinets and chairs in the position requested by the government personnel and/or plant personnel.

C-5.13. SET-UP

C-5.13.1. Air stream sorters

C-5.13.1.1. Air Stream Sorter machines with Gauge Oil. Set machine on plastic blocks that are provided with each machine. Open manometer oil wells by turning the gauge connectors one complete turn (180 degrees) and connect manometer tubes to the gauge connectors. Must be completed the day of delivery.

C-5.13.1.2. Air Stream Sorter machines with Differential Pressure Transmitter. Set machine on plastic blocks that are provided with each machine. Must be completed the day of delivery.

C-5.13.2. Micro Sand Washers

C-5.13.2.1. Hook the micro sand washer up to water source. Adjust pressure regulator to 30 PSI. Turn the power to the sand washer on. Measure the level of water at the end of the fill cycle at 50 degrees; the water level must be at 1 inch. The set-up must be completed the day of delivery.

C-5.13.3. Dried Fruit Moisture Testers, Grinders, Scales, Rehydrating and Dehydrating Ovens, Denver Splitters, Yankee Rotators, Bag Fillers, Bicycles, Hot Plates, and Office Furniture.

C-5.13.3.1. No set-up required.

C-5.13.4. Sizers

C-5.13.4.1. Bolt the sizer down in four locations; Must be completed the day of delivery.

C-5.13.5. Micro Filter Systems

C-5.13.5.1. Drill holes in counter for 3/8 inch tubing when new installation is required. Run tubing from flask to micro filter system pump. Must be completed the day of delivery.

C-5.13.6. Inspection Lighting

C-5.13.6.1. For new plants, installation of Examolites in the outgoing labs. Must be completed the day of delivery.

EXHIBITS

1. Government Furnished Facility
2. Government Furnished Shop Equipment
3. Government Furnished Parts & Material for Shop Equipment
4. Government Furnished Parts & Material for Raisin Inspection Equipment
5. Field Location Directory
6. List of Raisin Inspection Equipment and current Quantity of Each
7. Written Service Work Order Request
8. Air Stream Sorter picture, diagrams, and specifications
9. Micro Sand Washer picture, diagrams, and specifications
10. Dried Fruit Moisture Tester picture, diagrams, and specifications
11. Sizer picture, diagrams, and specifications
12. Outgoing Grinder picture
13. Incoming Grinder picture, diagrams, and specifications
14. Triple Beam Scale picture, diagrams, and specifications
15. Toledo Scale picture, diagrams, and specifications
16. Mettler Scale picture, diagrams, and specifications
17. SK-2000 Scale picture, diagrams, and specifications
18. Rehydrating and Dehydrating Oven picture, diagrams, and specifications
19. Denver Splitter picture, diagrams, and specifications
20. Yankee Rotator (Micro Shaker) picture
21. Micro Filter System picture
22. Bag Filler picture
23. Bicycle picture, diagrams, and specifications
24. Portable Examolite picture
25. Permanent Examolite (MacBeth) picture
26. Goose neck Lamp picture
27. Hot Plate picture
28. Air Stream Sorter Maintenance Checklist
29. Procedures for Micro Sand Washer Timing Adjustment

94-2073 CA,VISALIA 06/05/01
FOR OFFICIAL USE ONLY BY FEDERAL AGENCIES PARTICIPATING IN MOU WITH DOL

WASHINGTON D.C. 20210

Wage Determination No.: 1994-2073
Revision No.: 16
Date Of Last Revision: 05/31/2001

William W.Gross
Director
Division of
Wage Determinations

State: **California**

Area: **California** Counties of Inyo, Kings, **Tulare**

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION TITLE	MINIMUM WAGE RATE
Administrative Support and Clerical Occupations	
Accounting Clerk I	8.99
Accounting Clerk II	9.82
Accounting Clerk III	11.43
Accounting Clerk IV	13.74
Court Reporter	12.01
Dispatcher, Motor Vehicle	13.81
Document Preparation Clerk	9.65
Duplicating Machine Operator	9.64
Film/Tape Librarian	11.34
General Clerk I	6.52
General Clerk II	7.33
General Clerk III	9.61
General Clerk IV	13.69
Housing Referral Assistant	12.50
Key Entry Operator I	6.83
Key Entry Operator II	9.87
Messenger (Courier)	7.45
Order Clerk I	8.83
Order Clerk II	9.64
Personnel Assistant (Employment) I	6.51
Personnel Assistant (Employment) II	7.32
Personnel Assistant (Employment) III	9.60
Personnel Assistant (Employment) IV	13.67
Production Control Clerk	15.32
Rental Clerk	10.73
Scheduler, Maintenance	12.34
Secretary I	11.05
Secretary II	12.37
Secretary III	12.50
Secretary IV	13.58
Secretary V	15.02
Service Order Dispatcher	12.34
Stenographer I	9.55
Stenographer II	10.73
Supply Technician	15.25
Survey Worker (Interviewer)	12.01
Switchboard Operator-Receptionist	8.60
Test Examiner	12.37
Test Proctor	12.37
Travel Clerk I	9.47
Travel Clerk II	9.97
Travel Clerk III	10.80
Word Processor I	9.74
Word Processor II	10.94

Word Processor III	12.25
Automatic Data Processing Occupations	
Computer Data Librarian	9.86
Computer Operator I	10.23
Computer Operator II	11.44
Computer Operator III	12.74
Computer Operator IV	14.18
Computer Operator V	15.69
Computer Programmer I (1)	11.97
Computer Programmer II (1)	16.96
Computer Programmer III (1)	20.74
Computer Programmer IV (1)	24.34
Computer Systems Analyst I (1)	20.08
Computer Systems Analyst II (1)	23.57
Computer Systems Analyst III (1)	27.62
Peripheral Equipment Operator	10.73
Automotive Service Occupations	
Automotive Body Repairer, Fiberglass	17.43
Automotive Glass Installer	13.69
Automotive Worker	13.69
Electrician, Automotive	14.42
Mobile Equipment Servicer	12.22
Motor Equipment Metal Mechanic	15.16
Motor Equipment Metal Worker	13.69
Motor Vehicle Mechanic	15.16
Motor Vehicle Mechanic Helper	11.48
Motor Vehicle Upholstery Worker	12.95
Motor Vehicle Wrecker	13.69
Painter, Automotive	14.42
Radiator Repair Specialist	13.69
Tire Repairer	11.81
Transmission Repair Specialist	15.16
Food Preparation and Service Occupations	
Baker	12.74
Cook I	11.37
Cook II	12.74
Dishwasher	8.47
Food Service Worker	8.47
Meat Cutter	12.74
Waiter/Waitress	9.21
Furniture Maintenance and Repair Occupations	
Electrostatic Spray Painter	14.27
Furniture Handler	9.80
Furniture Refinisher	14.27
Furniture Refinisher Helper	11.36
Furniture Repairer, Minor	12.81
Upholsterer	14.27
General Services and Support Occupations	
Cleaner, Vehicles	8.47
Elevator Operator	8.69
Gardener	13.08
House Keeping Aid I	8.41
House Keeping Aid II	8.67
Janitor	8.67
Laborer, Grounds Maintenance	10.59
Maid or Houseman	8.41
Pest Controller	12.06
Refuse Collector	9.74
Tractor Operator	12.43
Window Cleaner	9.42
Health Occupations	
Dental Assistant	12.00
Emergency Medical Technician (EMT)/Paramedic/Ambulance Driver	11.58
Licensed Practical Nurse I	10.02
Licensed Practical Nurse II	11.24

Licensed Practical Nurse III	12.57
Medical Assistant	9.77
Medical Laboratory Technician	9.77
Medical Record Clerk	9.77
Medical Record Technician	14.35
Nursing Assistant I	7.10
Nursing Assistant II	7.98
Nursing Assistant III	8.71
Nursing Assistant IV	9.77
Pharmacy Technician	12.19
Phlebotomist	11.24
Registered Nurse I	15.51
Registered Nurse II	18.98
Registered Nurse II, Specialist	18.98
Registered Nurse III	22.97
Registered Nurse III, Anesthetist	22.97
Registered Nurse IV	27.52
Information and Arts Occupations	
Audiovisual Librarian	13.18
Exhibits Specialist I	12.67
Exhibits Specialist II	15.70
Exhibits Specialist III	19.20
Illustrator I	12.67
Illustrator II	15.70
Illustrator III	19.20
Librarian	16.77
Library Technician	12.72
Photographer I	11.33
Photographer II	12.67
Photographer III	15.70
Photographer IV	19.20
Photographer V	23.23
Laundry, Dry Cleaning, Pressing and Related Occupations	
Assembler	7.72
Counter Attendant	7.72
Dry Cleaner	8.31
Finisher, Flatwork, Machine	7.72
Presser, Hand	7.72
Presser, Machine, Drycleaning	7.72
Presser, Machine, Shirts	7.72
Presser, Machine, Wearing Apparel, Laundry	7.72
Sewing Machine Operator	9.18
Tailor	9.73
Washer, Machine	8.33
Machine Tool Operation and Repair Occupations	
Machine-Tool Operator (Toolroom)	14.27
Tool and Die Maker	16.70
Material Handling and Packing Occupations	
Forklift Operator	9.05
Fuel Distribution System Operator	12.10
Material Coordinator	14.20
Material Expediter	14.20
Material Handling Laborer	6.73
Order Filler	9.94
Production Line Worker (Food Processing)	10.95
Shipping Packer	10.08
Shipping/Receiving Clerk	10.08
Stock Clerk (Shelf Stocker; Store Worker II)	11.95
Store Worker I	9.27
Tools and Parts Attendant	12.63
Warehouse Specialist	12.63
Mechanics and Maintenance and Repair Occupations	
Aircraft Mechanic	15.01
Aircraft Mechanic Helper	11.36
Aircraft Quality Control Inspector	15.55

Aircraft Servicer	12.81
Aircraft Worker	13.55
Appliance Mechanic	14.27
Bicycle Repairer	11.69
Cable Splicer	17.26
Carpenter, Maintenance	14.34
Carpet Layer	13.55
Electrician, Maintenance	17.26
Electronics Technician, Maintenance I	14.68
Electronics Technician, Maintenance II	17.78
Electronics Technician, Maintenance III	19.51
Fabric Worker	12.81
Fire Alarm System Mechanic	15.01
Fire Extinguisher Repairer	12.10
Fuel Distribution System Mechanic	15.01
General Maintenance Worker	11.72
Heating, Refrigeration and Air Conditioning Mechanic	16.63
Heavy Equipment Mechanic	15.01
Heavy Equipment Operator	14.88
Instrument Mechanic	15.01
Laborer	8.47
Locksmith	14.27
Machinery Maintenance Mechanic	15.01
Machinist, Maintenance	15.01
Maintenance Trades Helper	11.36
Millwright	15.01
Office Appliance Repairer	14.27
Painter, Aircraft	16.31
Painter, Maintenance	14.27
Pipefitter, Maintenance	15.97
Plumber, Maintenance	15.18
Pneudraulic Systems Mechanic	15.01
Rigger	15.01
Scale Mechanic	13.55
Sheet-Metal Worker, Maintenance	15.01
Small Engine Mechanic	13.55
Telecommunication Mechanic I	15.26
Telecommunication Mechanic II	15.81
Telephone Lineman	15.81
Welder, Combination, Maintenance	15.01
Well Driller	15.01
Woodcraft Worker	15.01
Woodworker	12.10
Miscellaneous Occupations	
Animal Caretaker	9.96
Carnival Equipment Operator	11.54
Carnival Equipment Repairer	12.14
Carnival Worker	9.04
Cashier	7.46
Desk Clerk	7.95
Embalmer	16.57
Lifeguard	8.15
Mortician	16.57
Park Attendant (Aide)	10.24
Photofinishing Worker (Photo Lab Tech., Darkroom Tech)	7.09
Recreation Specialist	11.02
Recycling Worker	8.15
Sales Clerk	8.15
School Crossing Guard (Crosswalk Attendant)	8.47
Sport Official	7.09
Survey Party Chief (Chief of Party)	11.37
Surveying Aide	6.49
Surveying Technician (Instr. Person/Surveyor Asst./Instr.)	8.90
Swimming Pool Operator	12.74
Vending Machine Attendant	10.68

Vending Machine Repairer	12.74
Vending Machine Repairer Helper	10.68
Personal Needs Occupations	
Child Care Attendant	8.06
Child Care Center Clerk	10.23
Chore Aid	7.71
Homemaker	11.02
Plant and System Operation Occupations	
Boiler Tender	17.26
Sewage Plant Operator	14.93
Stationary Engineer	17.26
Ventilation Equipment Tender	11.36
Water Treatment Plant Operator	14.93
Protective Service Occupations	
Alarm Monitor	8.21
Corrections Officer	18.00
Court Security Officer	21.74
Detention Officer	21.74
Firefighter	18.02
Guard I	6.83
Guard II	7.63
Police Officer	22.91
Stevedoring/Longshoremen Occupations	
Blocker and Bracer	13.11
Hatch Tender	13.11
Line Handler	13.11
Stevedore I	12.40
Stevedore II	13.83
Technical Occupations	
Air Traffic Control Specialist, Center (2)	27.00
Air Traffic Control Specialist, Station (2)	18.62
Air Traffic Control Specialist, Terminal (2)	20.50
Archeological Technician I	11.33
Archeological Technician II	12.68
Archeological Technician III	15.70
Cartographic Technician	17.22
Civil Engineering Technician	18.06
Computer Based Training (CBT) Specialist/ Instructor	20.19
Drafter I	10.23
Drafter II	11.33
Drafter III	12.67
Drafter IV	15.70
Engineering Technician I	11.76
Engineering Technician II	13.03
Engineering Technician III	14.59
Engineering Technician IV	18.06
Engineering Technician V	22.08
Engineering Technician VI	26.67
Environmental Technician	12.93
Flight Simulator/Instructor (Pilot)	21.61
Graphic Artist	18.41
Instructor	18.41
Laboratory Technician	11.62
Mathematical Technician	15.70
Paralegal/Legal Assistant I	13.81
Paralegal/Legal Assistant II	15.16
Paralegal/Legal Assistant III	18.53
Paralegal/Legal Assistant IV	22.43
Photooptics Technician	15.70
Technical Writer	21.21
Unexploded (UXO) Safety Escort	17.16
Unexploded (UXO) Sweep Personnel	17.16
Unexploded Ordnance (UXO) Technician I	17.16
Unexploded Ordnance (UXO) Technician II	20.76
Unexploded Ordnance (UXO) Technician III	24.88

Weather Observer, Combined Upper Air and Surface Programs (3)	11.62
Weather Observer, Senior (3)	12.93
Weather Observer, Upper Air (3)	11.62
Transportation/ Mobile Equipment Operation Occupations	
Bus Driver	12.71
Parking and Lot Attendant	8.81
Shuttle Bus Driver	11.99
Taxi Driver	11.26
Truckdriver, Heavy Truck	15.44
Truckdriver, Light Truck	11.98
Truckdriver, Medium Truck	12.71
Truckdriver, Tractor-Trailer	15.44

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: $2.02 an hour or $80.80 a week or $350.13 a month.

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or success weeks aiter 5 years, and 4 weeks after 15 years. Length of service includes the who

of continuous service with the present contractor or successor, wherever employed, a

the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year: New Year's Day, Martin Luther Ki Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Co Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitu any of the named holidays another day off with pay in accordance with a plan communi to the employees involved.) (See 29 CFR 4.174)

THE OCCUPATIONS WHICH HAVE PARENTHESES AFTER THEM RECEIVE THE FOLLOWING BENEFITS (as numbered):

1) Does not apply to employees employed in a bona fide executive, administrative, o professional capacity as defined and delineated in 29 CFR 541. (See CFR 4.156)

2) APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. rate of basic pay plus a night pay differential amounting to 10 percent of the rate basic pay.

3) WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a r tour of duty, you will earn a night differential and receive an additional 10% of ba

for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours week) and Sunday is part of your regularly scheduled workweek, you are paid at your

basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday wo which is not overtime (i.e. occasional work on Sunday outside the normal tour of dut considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees emp in a position that represents a high degree of hazard when working with or in close proximity to ordinance, explosives, and incendiary materials. This includes work su screening, blending, dying, mixing, and pressing of sensitive ordance, explosives, a pyrotechnic compositions such as lead azide, black powder and photoflash powder. Al house activities involving propellants or explosives. Demilitarization, modificatio renovation, demolition, and maintenance operations on sensitive ordnance, explosives incendiary materials. All operations involving regrading and cleaning of artillery

A 4 percent differential is applicable to employees employed in a position that repr a low degree of hazard when working with, or in close proximity to ordance, (or empl

possibly adjacent to) explosives and incendiary materials which involves potential i such as laceration of hands, face, or arms of the employee engaged in the operation, irritation of the skin, minor burns and the like; minimal damage to immediate or adj work area or equipment being used. All operations involving, unloading, storage, an hauling of ordance, explosive, and incendiary ordnance material other than small arm ammunition. These differentials are only applicable to work that has been specifica designated by the agency for ordance, explosives, and incendiary material differenti

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (eith the terms of the Government contract, by the employer, by the state or local law, et the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) uniforms is an expense that may not be borne by an employee where such cost reduces hourly rate below that required by the wage determination. The Department of Labor w accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequat number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsib of the employee, all contractors and subcontractors subject to this wage determinati shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual c reimburse all employees for such cleaning and maintenance at a rate of $3.35 per wee $.67 cents per day). However, in those instances where the uniforms furnished are m "wash and wear" materials, may be routinely washed and dried with other personal gar and do not require any special treatment such as dry cleaning, daily washing, or com

laundering in order to meet the cleanliness or appearance standards set by the terms

Government contract, by the contractor, by law, or by the nature of the work, there requirement that employees be reimbursed for uniform maintenance costs.

** NOTES APPLYING TO THIS WAGE DETERMINATION **

Source of Occupational Title and Descriptions:

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by Third Supplement, dated March 1997, unless otherwise indicated. This publication ma obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 Copies of specific job descriptions may also be obtained from the appropriate contra officer.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE (Standard Form (SF 1444))

Conformance Process:

The contracting officer shall require that any class of service employee which is no listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), classified by the contractor so as to provide a reasonable relationship (i.e., appro level of skill comparison) between such unlisted classifications and the classificat listed in the wage determination. Such conformed classes of employees shall be paid monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract wo such unlisted class(es) of employees. The conformed classification, wage rate, and/ fringe benefits shall be retroactive to the commencement date of the contract. (See

4.6 (C)(vi)) When multiple wage determinations are included in a contract, a separa 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

94-2043 CA,BAKERSFIELD 06/05/01
FOR OFFICIAL USE ONLY BY FEDERAL AGENCIES PARTICIPATING IN MOU WITH DOL

WASHINGTON D.C. 20210

Wage Determination No.: 1994-2043
Revision No.: 17
Date Of Last Revision: 05/31/2001

William W.Gross
Director
Division of
Wage Determinations

State: **California**

Area: **California** County of **Kern**

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION TITLE	MINIMUM WAGE RATE
Administrative Support and Clerical Occupations	
Accounting Clerk I	11.15
Accounting Clerk II	12.17
Accounting Clerk III	13.66
Accounting Clerk IV	17.36
Court Reporter	14.82
Dispatcher, Motor Vehicle	13.12
Document Preparation Clerk	12.83
Duplicating Machine Operator	12.83
Film/Tape Librarian	11.50
General Clerk I	7.82
General Clerk II	8.79
General Clerk III	12.83
General Clerk IV	14.41
Housing Referral Assistant	15.04
Key Entry Operator I	9.68
Key Entry Operator II	11.85
Messenger (Courier)	8.73
Order Clerk I	10.24
Order Clerk II	10.68
Personnel Assistant (Employment) I	10.64
Personnel Assistant (Employment) II	11.94
Personnel Assistant (Employment) III	14.76
Personnel Assistant (Employment) IV	15.26
Production Control Clerk	13.18
Rental Clerk	12.27
Scheduler, Maintenance	12.27
Secretary I	12.27
Secretary II	15.05
Secretary III	15.69
Secretary IV	19.30
Secretary V	21.43
Service Order Dispatcher	13.23
Stenographer I	10.36
Stenographer II	12.00
Supply Technician	18.75
Survey Worker (Interviewer)	12.37
Switchboard Operator-Receptionist	9.08
Test Examiner	15.05
Test Proctor	15.05
Travel Clerk I	9.13
Travel Clerk II	9.61
Travel Clerk III	10.41
Word Processor I	10.63
Word Processor II	13.18

Word Processor III	14.81
Automatic Data Processing Occupations	
Computer Data Librarian	12.88
Computer Operator I	11.13
Computer Operator II	12.88
Computer Operator III	15.54
Computer Operator IV	17.39
Computer Operator V	19.27
Computer Programmer I (1)	13.59
Computer Programmer II (1)	16.51
Computer Programmer III (1)	18.90
Computer Programmer IV (1)	22.85
Computer Systems Analyst I (1)	14.23
Computer Systems Analyst II (1)	20.60
Computer Systems Analyst III (1)	22.48
Peripheral Equipment Operator	12.76
Automotive Service Occupations	
Automotive Body Repairer, Fiberglass	17.23
Automotive Glass Installer	15.90
Automotive Worker	15.90
Electrician, Automotive	16.55
Mobile Equipment Servicer	14.36
Motor Equipment Metal Mechanic	17.23
Motor Equipment Metal Worker	15.90
Motor Vehicle Mechanic	17.23
Motor Vehicle Mechanic Helper	13.30
Motor Vehicle Upholstery Worker	15.42
Motor Vehicle Wrecker	15.90
Painter, Automotive	16.54
Radiator Repair Specialist	15.90
Tire Repairer	13.87
Transmission Repair Specialist	17.23
Food Preparation and Service Occupations	
Baker	12.41
Cook I	11.20
Cook II	12.41
Dishwasher	9.15
Food Service Worker	9.15
Meat Cutter	12.41
Waiter/Waitress	8.77
Furniture Maintenance and Repair Occupations	
Electrostatic Spray Painter	16.54
Furniture Handler	12.87
Furniture Refinisher	16.54
Furniture Refinisher Helper	13.30
Furniture Repairer, Minor	15.21
Upholsterer	16.54
General Services and Support Occupations	
Cleaner, Vehicles	7.96
Elevator Operator	9.60
Gardener	9.34
House Keeping Aid I	7.96
House Keeping Aid II	9.82
Janitor	8.88
Laborer, Grounds Maintenance	8.95
Maid or Houseman	7.14
Pest Controller	11.88
Refuse Collector	10.52
Tractor Operator	10.61
Window Cleaner	9.79
Health Occupations	
Dental Assistant	12.01
Emergency Medical Technician (EMT)/Paramedic/Ambulance Driver	12.63
Licensed Practical Nurse I	10.98
Licensed Practical Nurse II	12.34

Licensed Practical Nurse III	13.81
Medical Assistant	10.39
Medical Laboratory Technician	10.95
Medical Record Clerk	10.73
Medical Record Technician	12.93
Nursing Assistant I	6.90
Nursing Assistant II	7.75
Nursing Assistant III	8.45
Nursing Assistant IV	9.50
Pharmacy Technician	11.63
Phlebotomist	12.34
Registered Nurse I	15.23
Registered Nurse II	18.64
Registered Nurse II, Specialist	18.64
Registered Nurse III	22.55
Registered Nurse III, Anesthetist	22.55
Registered Nurse IV	26.81
Information and Arts Occupations	
Audiovisual Librarian	20.01
Exhibits Specialist I	15.55
Exhibits Specialist II	18.55
Exhibits Specialist III	22.87
Illustrator I	13.52
Illustrator II	16.13
Illustrator III	19.89
Librarian	20.64
Library Technician	12.33
Photographer I	12.90
Photographer II	15.38
Photographer III	18.66
Photographer IV	22.83
Photographer V	28.08
Laundry, Dry Cleaning, Pressing and Related Occupations	
Assembler	6.84
Counter Attendant	6.84
Dry Cleaner	8.31
Finisher, Flatwork, Machine	6.84
Presser, Hand	6.84
Presser, Machine, Drycleaning	6.84
Presser, Machine, Shirts	6.84
Presser, Machine, Wearing Apparel, Laundry	6.84
Sewing Machine Operator	8.85
Tailor	9.38
Washer, Machine	7.24
Machine Tool Operation and Repair Occupations	
Machine-Tool Operator (Toolroom)	16.54
Tool and Die Maker	24.06
Material Handling and Packing Occupations	
Forklift Operator	11.77
Fuel Distribution System Operator	14.51
Material Coordinator	12.14
Material Expediter	12.14
Material Handling Laborer	9.48
Order Filler	12.17
Production Line Worker (Food Processing)	12.32
Shipping Packer	12.47
Shipping/Receiving Clerk	12.47
Stock Clerk (Shelf Stocker; Store Worker II)	11.35
Store Worker I	9.38
Tools and Parts Attendant	12.30
Warehouse Specialist	12.30
Mechanics and Maintenance and Repair Occupations	
Aircraft Mechanic	17.41
Aircraft Mechanic Helper	13.68
Aircraft Quality Control Inspector	18.45

Aircraft Servicer	15.65
Aircraft Worker	16.35
Appliance Mechanic	16.54
Bicycle Repairer	13.87
Cable Splicer	19.82
Carpenter, Maintenance	16.54
Carpet Layer	15.90
Electrician, Maintenance	20.00
Electronics Technician, Maintenance I	17.19
Electronics Technician, Maintenance II	19.02
Electronics Technician, Maintenance III	20.52
Fabric Worker	15.21
Fire Alarm System Mechanic	17.23
Fire Extinguisher Repairer	14.85
Fuel Distribution System Mechanic	17.23
General Maintenance Worker	15.70
Heating, Refrigeration and Air Conditioning Mechanic	17.23
Heavy Equipment Mechanic	17.23
Heavy Equipment Operator	20.91
Instrument Mechanic	19.29
Laborer	11.28
Locksmith	16.54
Machinery Maintenance Mechanic	17.68
Machinist, Maintenance	18.42
Maintenance Trades Helper	13.30
Millwright	18.70
Office Appliance Repairer	16.54
Painter, Aircraft	16.54
Painter, Maintenance	16.54
Pipefitter, Maintenance	17.23
Plumber, Maintenance	16.54
Pneudraulic Systems Mechanic	17.23
Rigger	22.39
Scale Mechanic	15.90
Sheet-Metal Worker, Maintenance	17.23
Small Engine Mechanic	15.90
Telecommunication Mechanic I	18.93
Telecommunication Mechanic II	20.62
Telephone Lineman	18.93
Welder, Combination, Maintenance	17.23
Well Driller	17.23
Woodcraft Worker	17.23
Woodworker	15.44
Miscellaneous Occupations	
Animal Caretaker	9.15
Carnival Equipment Operator	12.07
Carnival Equipment Repairer	13.01
Carnival Worker	7.96
Cashier	8.11
Desk Clerk	8.44
Embalmer	16.57
Lifeguard	9.02
Mortician	16.57
Park Attendant (Aide)	11.31
Photofinishing Worker (Photo Lab Tech., Darkroom Tech)	8.64
Recreation Specialist	12.32
Recycling Worker	13.74
Sales Clerk	8.64
School Crossing Guard (Crosswalk Attendant)	7.96
Sport Official	8.64
Survey Party Chief (Chief of Party)	13.73
Surveying Aide	9.11
Surveying Technician (Instr. Person/Surveyor Asst./Instr.)	12.48
Swimming Pool Operator	11.06
Vending Machine Attendant	9.52

Vending Machine Repairer	11.93
Vending Machine Repairer Helper	10.26
Personal Needs Occupations	
Child Care Attendant	8.44
Child Care Center Clerk	13.11
Chore Aid	7.88
Homemaker	14.27
Plant and System Operation Occupations	
Boiler Tender	17.23
Sewage Plant Operator	17.45
Stationary Engineer	20.65
Ventilation Equipment Tender	13.30
Water Treatment Plant Operator	17.45
Protective Service Occupations	
Alarm Monitor	11.13
Corrections Officer	19.47
Court Security Officer	19.47
Detention Officer	19.47
Firefighter	18.02
Guard I	7.70
Guard II	8.41
Police Officer	22.42
Stevedoring/Longshoremen Occupations	
Blocker and Bracer	14.71
Hatch Tender	15.00
Line Handler	15.00
Stevedore I	14.08
Stevedore II	15.31
Technical Occupations	
Air Traffic Control Specialist, Center (2)	27.00
Air Traffic Control Specialist, Station (2)	18.62
Air Traffic Control Specialist, Terminal (2)	20.50
Archeological Technician I	12.91
Archeological Technician II	14.44
Archeological Technician III	17.88
Cartographic Technician	22.87
Civil Engineering Technician	21.90
Computer Based Training (CBT) Specialist/ Instructor	14.23
Drafter I	12.62
Drafter II	15.04
Drafter III	20.90
Drafter IV .	21.62
Engineering Technician I	11.33
Engineering Technician II	13.52
Engineering Technician III	18.79
Engineering Technician IV	19.89
Engineering Technician V	28.14
Engineering Technician VI	29.43
Environmental Technician	16.63
Flight Simulator/Instructor (Pilot)	20.60
Graphic Artist	12.37
Instructor	14.23
Laboratory Technician	13.56
Mathematical Technician	19.88
Paralegal/Legal Assistant I	14.23
Paralegal/Legal Assistant II	18.09
Paralegal/Legal Assistant III	22.13
Paralegal/Legal Assistant IV	26.76
Photooptics Technician	21.82
Technical Writer	22.32
Unexploded (UXO) Safety Escort	17.16
Unexploded (UXO) Sweep Personnel	17.16
Unexploded Ordnance (UXO) Technician I	17.16
Unexploded Ordnance (UXO) Technician II	20.76
Unexploded Ordnance (UXO) Technician III	24.88

Weather Observer, Combined Upper Air and Surface Programs (3)	13.47
Weather Observer, Senior (3)	14.97
Weather Observer, Upper Air (3)	13.47
Transportation/ Mobile Equipment Operation Occupations	
Bus Driver	13.77
Parking and Lot Attendant	6.73
Shuttle Bus Driver	10.21
Taxi Driver	10.48
Truckdriver, Heavy Truck	14.67
Truckdriver, Light Truck	10.21
Truckdriver, Medium Truck	14.81
Truckdriver, Tractor-Trailer	14.67

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: $2.02 an hour or $80.80 a week or $350.13 a month.

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or success weeks after 5 years, and 4 weeks after 15 years. Length of service includes the who

of continuous service with the present contractor or successor, wherever employed, a

the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year: New Year's Day, Martin Luther Ki Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Co Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitu any of the named holidays another day off with pay in accordance with a plan communi to the employees involved.) (See 29 CFR 4.174)

THE OCCUPATIONS WHICH HAVE PARENTHESES AFTER THEM RECEIVE THE FOLLOWING BENEFITS (as numbered):

1) Does not apply to employees employed in a bona fide executive, administrative, o professional capacity as defined and delineated in 29 CFR 541. (See CFR 4.156)

2) APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. rate of basic pay plus a night pay differential amounting to 10 percent of the rate basic pay.

3) WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a r tour of duty, you will earn a night differential and receive an additional 10% of ba

for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours week) and Sunday is part of your regularly scheduled workweek, you are paid at your

basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday wo which is not overtime (i.e. occasional work on Sunday outside the normal tour of dut considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees emp in a position.that represents a high degree of hazard including working with or in c proximity to explosives and incendiary materials involved in research, testing, manufacturing, inspection, renovation, maintenance, and disposal. Such as: Screenin blending, dying, mixing, and pressing of sensitive explosives pyrotechnic compositio

as lead azide, black powder and photoflash power. All dry-house activities involvin propellants or explosives. Demilitarization, modification, renovation, demolition, maintenance operations on sensitive explosives and incendiary materials. All operat involving regarding and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that repr a low degree of hazard. Including working with or in close proximity to explosives incendiary materials which involves potential injury such as laceration of hands, fa arms of the employee engaged in the operation and, possibly adjacent employees, irri of the skin, minor burns and the like; minimal damage to immediate or adjacent work

equipment being used.

All operations involving, unloading, storage, and hauling of explosive and incendiar ordnance material other than small arms ammunition. (Distribution of raw nitroglyce

covered under high degree hazard.)

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (eith the terms of the Government contract, by the employer, by the state or local law, et the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) uniforms is an expense that may not be borne by an employee where such cost reduces hourly rate below that required by the wage determination. The Department of Labor w accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequat number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsib of the employee, all contractors and subcontractors subject to this wage determinati shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual c reimburse all employees for such cleaning and maintenance at a rate of $3.35 per wee $.67 cents per day). However, in those instances where the uniforms furnished are m "wash and wear" materials, may be routinely washed and dried with other personal gar and do not require any special treatment such as dry cleaning, daily washing, or com

laundering in order to meet the cleanliness or appearance standards set by the terms

Government contract, by the contractor, by law, or by the nature of the work, there requirement that employees be reimbursed for uniform maintenance costs.

** NOTES APPLYING TO THIS WAGE DETERMINATION **

Source of Occupational Title and Descriptions:

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by Third Supplement, dated March 1997, unless otherwise indicated. This publication ma obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 Copies of specific job descriptions may also be obtained from the appropriate contra officer.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE {Standard Form (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is no listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), classified by the contractor so as to provide a reasonable relationship (i.e., appro level of skill comparison) between such unlisted classifications and the classificat listed in the wage determination. Such conformed classes of employees shall be paid monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract wo such unlisted class(es) of employees. The conformed classification, wage rate, and/ fringe benefits shall be retroactive to the commencement date of the contract. {See

4.6 (C)(vi)) When multiple wage determinations are included in a contract, a separa 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupa

and computes a proposed rate(s).

2) After contract award, the contractor prepares a written report listing in order p

classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), incl information regarding the agreement or disagreement of the authorized representative

employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later tha days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report

action, together with the agency's recommendations and pertinent information includi position of the contractor and the employees, to the Wage and Hour Division, Employm Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b) Regulations 29 CFR Part 4).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disa

the action via transmittal to the agency contracting officer, or notifies the contra officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupat (the Directory) should be used to compare job definitions to insure that duties requ are not performed by a classification already listed in the wage determination. Rem it is not the job title, but the required tasks that determine whether a class is in in an established wage determination. Conformances may not be used to artificially combine, or subdivide classifications listed in the wage determination.

94-2045 CA,**FRESNO** 06/05/01
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WASHINGTON D.C. 20210

William W.Gross
Director

Division of
Wage Determinations

Wage Determination No.: 1994-2045
Revision No.: 16
Date Of Last Revision: 05/31/2001

State: **California**

Area: **California** Counties of **Fresno**, Madera, Mariposa, Merced

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION TITLE	MINIMUM WAGE RATE
Administrative Support and Clerical Occupations	
Accounting Clerk I	9.29
Accounting Clerk II	9.59
Accounting Clerk III	11.33
Accounting Clerk IV	15.33
Court Reporter	12.97
Dispatcher, Motor Vehicle	10.82
Document Preparation Clerk	9.21
Duplicating Machine Operator	9.21
Film/Tape Librarian	10.90
General Clerk I	7.77
General Clerk II	8.72
General Clerk III	9.42
General Clerk IV	10.69
Housing Referral Assistant	14.20
Key Entry Operator I	8.85
Key Entry Operator II	9.62
Messenger (Courier)	7.80
Order Clerk I	10.10
Order Clerk II	10.26
Personnel Assistant (Employment) I	10.42
Personnel Assistant (Employment) II	11.71
Personnel Assistant (Employment) III	12.49
Personnel Assistant (Employment) IV	14.36
Production Control Clerk	12.88
Rental Clerk	11.59
Scheduler, Maintenance	11.59
Secretary I	11.59
Secretary II	14.05
Secretary III	14.20
Secretary IV	16.72
Secretary V	17.24
Service Order Dispatcher	10.82
Stenographer I	10.86
Stenographer II	12.17
Supply Technician	15.72
Survey Worker (Interviewer)	11.28
Switchboard Operator-Receptionist	8.72
Test Examiner	12.35
Test Proctor	12.35
Travel Clerk I	9.13
Travel Clerk II	9.61
Travel Clerk III	10.41
Word Processor I	9.77
Word Processor II	10.66

Word Processor III	12.27
Automatic Data Processing Occupations	
Computer Data Librarian	11.08
Computer Operator I	11.08
Computer Operator II	12.62
Computer Operator III	15.56
Computer Operator IV	17.25
Computer Operator V	19.15
Computer Programmer I (1)	13.15
Computer Programmer II (1)	16.20
Computer Programmer III (1)	22.25
Computer Programmer IV (1)	24.13
Computer Systems Analyst I (1)	19.35
Computer Systems Analyst II (1)	22.55
Computer Systems Analyst III (1)	27.05
Peripheral Equipment Operator	9.46
Automotive Service Occupations	
Automotive Body Repairer, Fiberglass	15.41
Automotive Glass Installer	13.78
Automotive Worker	13.78
Electrician, Automotive	15.31
Mobile Equipment Servicer	12.23
Motor Equipment Metal Mechanic	15.31
Motor Equipment Metal Worker	13.78
Motor Vehicle Mechanic	15.63
Motor Vehicle Mechanic Helper	11.59
Motor Vehicle Upholstery Worker	13.58
Motor Vehicle Wrecker	13.78
Painter, Automotive	14.54
Radiator Repair Specialist	13.78
Tire Repairer	11.82
Transmission Repair Specialist	15.31
Food Preparation and Service Occupations	
Baker	10.83
Cook I	10.29
Cook II	10.83
Dishwasher	7.66
Food Service Worker	7.66
Meat Cutter	11.61
Waiter/Waitress	8.19
Furniture Maintenance and Repair Occupations	
Electrostatic Spray Painter	14.54
Furniture Handler	11.59
Furniture Refinisher	14.54
Furniture Refinisher Helper	11.59
Furniture Repairer, Minor	13.01
Upholsterer	14.54
General Services and Support Occupations	
Cleaner, Vehicles	7.66
Elevator Operator	8.38
Gardener	10.00
House Keeping Aid I	7.66
House Keeping Aid II	8.96
Janitor	8.38
Laborer, Grounds Maintenance	9.30
Maid or Houseman	6.98
Pest Controller	10.61
Refuse Collector	9.22
Tractor Operator	8.69
Window Cleaner	8.96
Health Occupations	
Dental Assistant	10.93
Emergency Medical Technician (EMT)/Paramedic/Ambulance Driver	11.35
Licensed Practical Nurse I	10.02
Licensed Practical Nurse II	11.24

Licensed Practical Nurse III	12.57
Medical Assistant	10.11
Medical Laboratory Technician	11.24
Medical Record Clerk	11.24
Medical Record Technician	13.54
Nursing Assistant I	7.50
Nursing Assistant II	8.43
Nursing Assistant III	9.20
Nursing Assistant IV	10.32
Pharmacy Technician	12.19
Phlebotomist	11.24
Registered Nurse I	15.57
Registered Nurse II	18.99
Registered Nurse II, Specialist	18.99
Registered Nurse III	23.06
Registered Nurse III, Anesthetist	23.06
Registered Nurse IV	27.62
Information and Arts Occupations	
Audiovisual Librarian	16.51
Exhibits Specialist I	12.24
Exhibits Specialist II	13.71
Exhibits Specialist III	16.96
Illustrator I	12.24
Illustrator II	13.71
Illustrator III	16.96
Librarian	18.10
Library Technician	11.28
Photographer I	12.02
Photographer II	13.54
Photographer III	15.16
Photographer IV	18.76
Photographer V	22.68
Laundry, Dry Cleaning, Pressing and Related Occupations	
Assembler	6.84
Counter Attendant	6.84
Dry Cleaner	8.31
Finisher, Flatwork, Machine	6.84
Presser, Hand	6.84
Presser, Machine, Drycleaning	6.84
Presser, Machine, Shirts	6.84
Presser, Machine, Wearing Apparel, Laundry	6.84
Sewing Machine Operator	8.85
Tailor	9.38
Washer, Machine	7.24
Machine Tool Operation and Repair Occupations	
Machine-Tool Operator (Toolroom)	14.54
Tool and Die Maker	17.29
Material Handling and Packing Occupations	
Forklift Operator	11.21
Fuel Distribution System Operator	12.23
Material Coordinator	14.26
Material Expediter	14.26
Material Handling Laborer	9.32
Order Filler	12.13
Production Line Worker (Food Processing)	6.13
Shipping Packer	11.24
Shipping/Receiving Clerk	11.49
Stock Clerk (Shelf Stocker; Store Worker II)	11.30
Store Worker I	8.74
Tools and Parts Attendant	11.59
Warehouse Specialist	11.59
Mechanics and Maintenance and Repair Occupations	
Aircraft Mechanic	15.31
Aircraft Mechanic Helper	11.59
Aircraft Quality Control Inspector	15.92

Aircraft Servicer	13.01
Aircraft Worker	13.78
Appliance Mechanic	14.54
Bicycle Repairer	11.82
Cable Splicer	17.61
Carpenter, Maintenance	14.54
Carpet Layer	13.78
Electrician, Maintenance	15.67
Electronics Technician, Maintenance I	13.49
Electronics Technician, Maintenance II	16.04
Electronics Technician, Maintenance III	18.68
Fabric Worker	13.01
Fire Alarm System Mechanic	16.15
Fire Extinguisher Repairer	12.90
Fuel Distribution System Mechanic	16.15
General Maintenance Worker	13.78
Heating, Refrigeration and Air Conditioning Mechanic	16.08
Heavy Equipment Mechanic	15.88
Heavy Equipment Operator	15.31
Instrument Mechanic	15.31
Laborer	8.82
Locksmith	14.54
Machinery Maintenance Mechanic	16.03
Machinist, Maintenance	16.54
Maintenance Trades Helper	11.48
Millwright	15.31
Office Appliance Repairer	14.54
Painter, Aircraft	14.54
Painter, Maintenance	15.78
Pipefitter, Maintenance	17.61
Plumber, Maintenance	16.72
Pneudraulic Systems Mechanic	16.15
Rigger	15.31
Scale Mechanic	14.54
Sheet-Metal Worker, Maintenance	15.31
Small Engine Mechanic	13.78
Telecommunication Mechanic I	15.31
Telecommunication Mechanic II	15.92
Telephone Lineman	15.31
Welder, Combination, Maintenance	15.31
Well Driller	17.61
Woodcraft Worker	15.31
Woodworker	14.20
Miscellaneous Occupations	
Animal Caretaker	9.00
Carnival Equipment Operator	9.77
Carnival Equipment Repairer	10.42
Carnival Worker	7.66
Cashier	7.61
Desk Clerk	9.32
Embalmer	16.57
Lifeguard	9.02
Mortician	16.57
Park Attendant (Aide)	11.32
Photofinishing Worker (Photo Lab Tech., Darkroom Tech)	8.29
Recreation Specialist	12.55
Recycling Worker	10.62
Sales Clerk	9.01
School Crossing Guard (Crosswalk Attendant)	7.66
Sport Official	9.02
Survey Party Chief (Chief of Party)	15.88
Surveying Aide	10.55
Surveying Technician (Instr. Person/Surveyor Asst./Instr.)	14.44
Swimming Pool Operator	10.02
Vending Machine Attendant	7.17

Vending Machine Repairer	10.02
Vending Machine Repairer Helper	7.79
Personal Needs Occupations	
Child Care Attendant	9.54
Child Care Center Clerk	11.60
Chore Aid	7.51
Homemaker	12.46
Plant and System Operation Occupations	
Boiler Tender	15.31
Sewage Plant Operator	15.34
Stationary Engineer	17.61
Ventilation Equipment Tender	11.59
Water Treatment Plant Operator	15.57
Protective Service Occupations	
Alarm Monitor	10.25
Corrections Officer	21.53
Court Security Officer	21.53
Detention Officer	21.53
Firefighter	21.14
Guard I	6.83
Guard II	10.25
Police Officer	21.92
Stevedoring/Longshoremen Occupations	
Blocker and Bracer	13.88
Hatch Tender	13.88
Line Handler	13.88
Stevedore I	13.13
Stevedore II	14.63
Technical Occupations	
Air Traffic Control Specialist, Center (2)	27.00
Air Traffic Control Specialist, Station (2)	18.62
Air Traffic Control Specialist, Terminal (2)	20.50
Archeological Technician I	11.37
Archeological Technician II	12.73
Archeological Technician III	15.77
Cartographic Technician	15.77
Civil Engineering Technician	15.77
Computer Based Training (CBT) Specialist/ Instructor	20.04
Drafter I	10.52
Drafter II	11.42
Drafter III	12.87
Drafter IV	14.41
Engineering Technician I	11.60
Engineering Technician II	12.66
Engineering Technician III	15.64
Engineering Technician IV	15.90
Engineering Technician V	19.66
Engineering Technician VI	23.79
Environmental Technician	15.49
Flight Simulator/Instructor (Pilot)	22.39
Graphic Artist	17.43
Instructor	16.30
Laboratory Technician	12.72
Mathematical Technician	14.21
Paralegal/Legal Assistant I	14.63
Paralegal/Legal Assistant II	16.51
Paralegal/Legal Assistant III	20.18
Paralegal/Legal Assistant IV	24.43
Photooptics Technician	15.72
Technical Writer	20.16
Unexploded (UXO) Safety Escort	17.16
Unexploded (UXO) Sweep Personnel	17.16
Unexploded Ordnance (UXO) Technician I	17.16
Unexploded Ordnance (UXO) Technician II	20.76
Unexploded Ordnance (UXO) Technician III	24.88

Weather Observer, Combined Upper Air and Surface Programs (3)	15.61
Weather Observer, Senior (3)	17.30
Weather Observer, Upper Air (3)	15.61
Transportation/ Mobile Equipment Operation Occupations	
Bus Driver	14.58
Parking and Lot Attendant	7.79
Shuttle Bus Driver	11.27
Taxi Driver	9.67
Truckdriver, Heavy Truck	14.31
Truckdriver, Light Truck	11.27
Truckdriver, Medium Truck	12.84
Truckdriver, Tractor-Trailer	14.31

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: $2.02 an hour or $80.80 a week or $350.13 a month.

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or success weeks after 5 years, and 4 weeks after 15 years. Length of service includes the who

of continuous service with the present contractor or successor, wherever employed, a

the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year: New Year's Day, Martin Luther Ki Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Co Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitu any of the named holidays another day off with pay in accordance with a plan communi to the employees involved.) (See 29 CFR 4.174)

THE OCCUPATIONS WHICH HAVE PARENTHESES AFTER THEM RECEIVE THE FOLLOWING BENEFITS (as numbered):

1) Does not apply to employees employed in a bona fide executive, administrative, o professional capacity as defined and delineated in 29 CFR 541. (See CFR 4.156)

2) APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. rate of basic pay plus a night pay differential amounting to 10 percent of the rate basic pay.

3) WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a r tour of duty, you will earn a night differential and receive an additional 10 of ba

for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours week) and Sunday is part of your regularly scheduled workweek, you are paid at your

basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday wo which is not overtime (i.e. occasional work on Sunday outside the normal tour of dut considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees emp in a position that represents a high degree of hazard including working with or in c proximity to explosives and incendiary materials involved in research, testing, manufacturing, inspection, renovation, maintenance, and disposal. Such as: Screenin blending, dying, mixing, and pressing of sensitive explosives pyrotechnic compositio

as lead azide, black powder and photoflash power. All dry-house activities involvin propellants or explosives. Demilitarization, modification, renovation, demolition, maintenance operations on sensitive explosives and incendiary materials. All operat involving regarding and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that repr a low degree of hazard. Including working with or in close proximity to explosives incendiary materials which involves potential injury such as laceration of hands, fa arms of the employee engaged in the operation and, possibly adjacent employees, irri of the skin, minor burns and the like; minimal damage to immediate or adjacent work

equipment being used.

All operations involving, unloading, storage, and hauling of explosive and incendiar ordnance material other than small arms ammunition. (Distribution of raw nitroglyce

covered under high degree hazard.)

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (eith the terms of the Government contract, by the employer, by the state or local law, et the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) uniforms is an expense that may not be borne by an employee where such cost reduces hourly rate below that required by the wage determination. The Department of Labor w accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequat number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsib of the employee, all contractors and subcontractors subject to this wage determinati shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual c reimburse all employees for such cleaning and maintenance at a rate of $3.35 per wee $.67 cents per day). However, in those instances where the uniforms furnished are m "wash and wear" materials, may be routinely washed and dried with other personal gar and do not require any special treatment such as dry cleaning, daily washing, or com

laundering in order to meet the cleanliness or appearance standards set by the terms

Government contract, by the contractor, by law, or by the nature of the work, there requirement that employees be reimbursed for uniform maintenance costs.

** NOTES APPLYING TO THIS WAGE DETERMINATION **

Source of Occupational Title and Descriptions:

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by Third Supplement, dated March 1997, unless otherwise indicated. This publication ma obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 Copies of specific job descriptions may also be obtained from the appropriate contra officer.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE {Standard Form (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is no listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), classified by the contractor so as to provide a reasonable relationship (i.e., appro level of skill comparison) between such unlisted classifications and the classificat listed in the wage determination. Such conformed classes of employees shall be paid monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract wo such unlisted class(es) of employees. The conformed classification, wage rate, and/ fringe benefits shall be retroactive to the commencement date of the contract. {See

4.6 (C)(vi)} When multiple wage determinations are included in a contract, a separa 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupa

and computes a proposed rate(s).

2) After contract award, the contractor prepares a written report listing in order p

classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), incl information regarding the agreement or disagreement of the authorized representative

employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later tha days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report

action, together with the agency's recommendations and pertinent information includi position of the contractor and the employees, to the Wage and Hour Division, Employm Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b) Regulations 29 CFR Part 4).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disa

the action via transmittal to the agency contracting officer, or notifies the contra officer that additional time will be required to process the request.

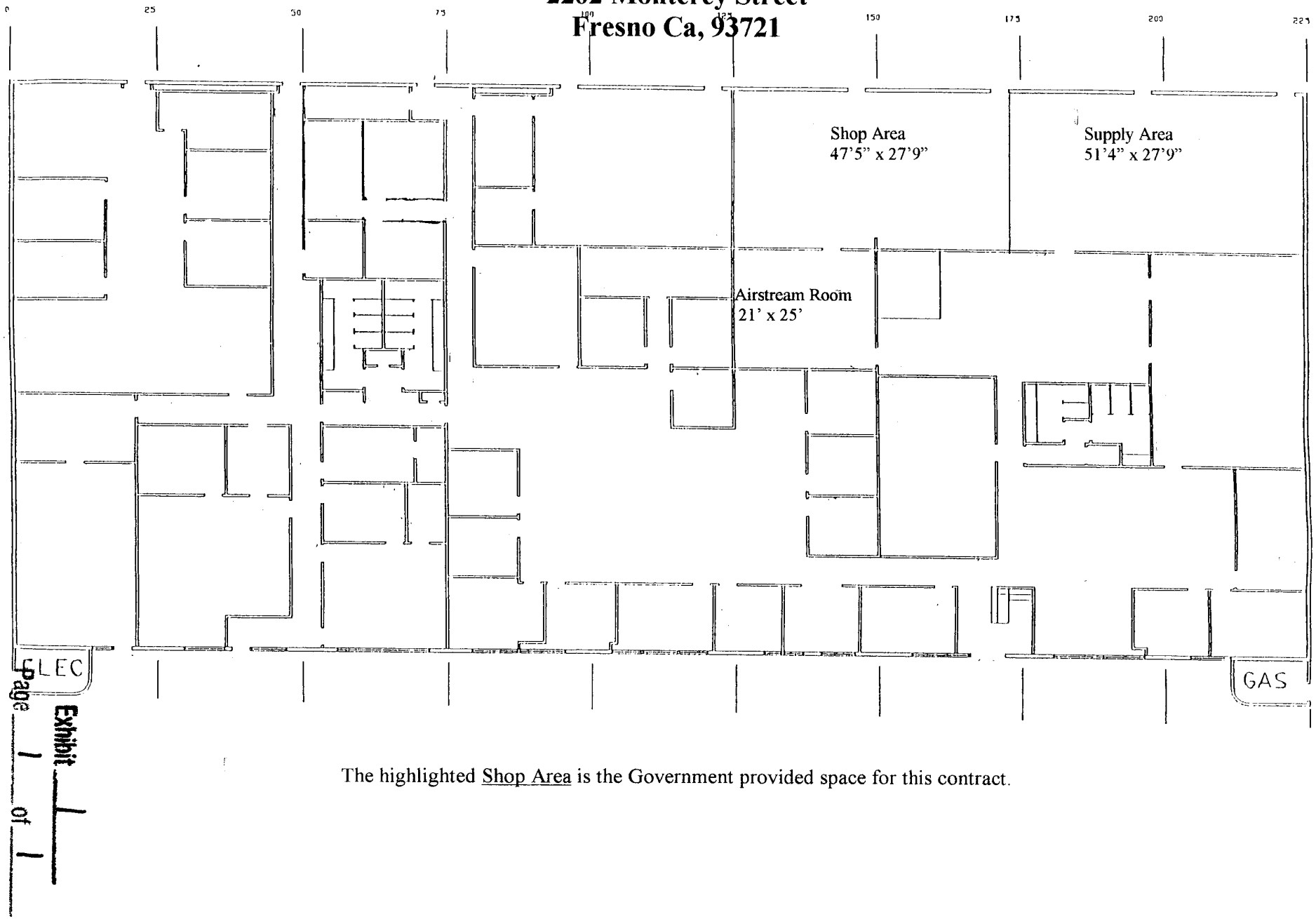
5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupat (the Directory) should be used to compare job definitions to insure that duties requ are not performed by a classification already listed in the wage determination. Rem it is not the job title, but the required tasks that determine whether a class is in in an established wage determination. Conformances may not be used to artificially combine, or subdivide classifications listed in the wage determination.

Government Leased Building At
2202 Monterey Street
Fresno Ca, 93721



The highlighted Shop Area is the Government provided space for this contract.

Exhibit 1
Page 1 of 1

SHOP EQUIPMENT
PROVIDED BY
GOVERNMENT

1. Spot Welder
2. Arc Welder
3. Drill Press
4. Band Saw
5. Chop Saw
6. Grinder
7. Buffer / Wire Wheel
8. Brake
9. Belt & Disc Sander
10. Acetylene Tank and Torches
11. 3 Vises
12. Metal Lathe

Exhibit 2
Page 1 of 1

SHOP EQUIPMENT

Government Furnished Parts and Material

1. **Band Saw Blades**
2. **Chop Saw Disc**
3. **Welding Rod**
4. **Solder**

Exhibit 3

Page 1 of 1

RAISIN INSPECTION EQUIPMENT
GOVERNMENT FURNISHED PARTS AND MATERIAL

All screws, bolts, nuts, washers, and wire will be provided by the Government.

Equipment	Parts	Materials
Air Stream Sorter	Blower Motor Casters Differential Pressure Transmitter Feed Belt Feed Belt Motor Indicator light Latches Manometer (Liquid) Power Supply Model A-700 Snuber Switch Thermometer Thermostat	Clips Fittings (various sizes) Manometer Oil Plexiglas Tape (baffle) Tape (foam) Tape (gasket) Tape (duct) Tubing (Clear Vinyl) Silicone Permagum
Micro Sand Washer	Sprayer Tips Pressure Gauge Regulator Water Filter Agitator Motor Drain Hose Hinge Timer Pump Latch Indicator Light Push Button Switch Beaker Casters Hose Water Level Control Solenoid Valve Solenoid Coil	Angle iron Flat iron Pipe Elbows Screen Connectors 24 Gauge Stainless Steel Channel Iron
Dried Fruit Moisture Tester	Potentiometer Transformer Micro Amp Meter Volt Meter Indicator Light Resistor Control Toggle Switch Clarostat Hinges Tap Switch Push Switch	Sheet Metal Plywood
Sizer	Motor Timer	Square Steel Aluminum Angle Iron Sheet Metal (24 Gauge)

Exhibit 4

Grinder	Auger Bushing Cutting Blade Cutting Plate Housing Motor Universal hand grinder assembly Power Switch	
Scales	Power Switch	Plunger Oil
Rehydrating and Dehydrating Oven	Blower Heating Element Indicator Light Switch Thermostat	Sheet Metal (22 gauge) Wire mesh Tape (foam) Solder
Denver Splitter		Sheet Metal (22 gauge) Flat iron Angle iron Rivets
Yankee Rotator	Motor Toggle Switch Timer Switch	Screws
Micro Filter System	Vacuums motor Filter	Tubing Fittings
Bag Filler		22 gauge sheet metal Flat iron Solder
Bicycles	Basket Petals Seat Tires Tubes Fenders Chain Kick Stand Handle Grips Handle Bars Spokes Bearings	Tire Sealant
Inspection Lighting	Light Bulbs Florescent Tubes Ballast	Connectors
Hot plates	Heating Element Switch Thermostat Switch Indicator Light	Connectors
Office Furniture	Casters	Steel Rod Eyelets

Exhibit 4

Page 2 2

Field Location Directory

Address	Types and Number of Raisin Inspection Equipment	
2210 N. Grantland Fresno, CA 93722	1 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 1 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 1 Hot Plate 0 MicroSand Washer	1 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 1 Scales 1 Denver Splitter 1 File Cabinet
1402 S. Academy Sanger, CA 93657	2 Air Stream Sorter 2 Dried Fruit Moisture Tester 0 Sizer 1 Rehydrating/Dehydrating Oven 3 Grinder 0 Bag Filler 0 Bicycle 3 Hot Plate 1 Micro Sand Washer	5 Inspection Lighting 1 Yankee Rotator 1 Micro Filter System 2 Scales 1 Denver Splitter 8 Chairs 4 File Cabinets 1 Table 1 Desk
2335 Chandler St. Selma, CA 93662	2 Air Stream Sorter 1 Dried Fruit Moisture Tester 1 Sizer 1 Rehydrating/Dehydrating Oven 1 Grinder 1 Bag Filler 1 Bicycle 2 Hot Plate 1 Micro Sand Washer	3 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 1 Denver Splitter 4 Chairs 1 Table 1 File Cabinet 1 Desk
12814 West G St. Biola, CA 93606	3 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 2 Rehydrating/Dehydrating Oven 2 Grinder 2 Bag Filler 3 Bicycle 0 Hot Plate 1 Micro Sand Washer	2 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 4 Denver Splitter 6 Chairs 2 Desks 4 File Cabinets
726 South 8th St. Fowler, CA 93625	5 Air Stream Sorter 2 Dried Fruit Moisture Tester 1 Sizer 2 Rehydrating/Dehydrating Oven 2 Grinder 2 Bag Filler 4 Bicycle 3 Hot Plate 1 Micro Sand Washer	8 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 6 Scales 2 Denver Splilter 14 Chairs 4 Tables 4 Desks 5 File Cabinets

Exhibit 5

Page 1 10

Field Location Directory

21853 Road 24 Madera, CA 93638	1 Air Stream Sorter 1 Dried Fruit Moisture Tester 1 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	4 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 1 Denver Splitter 3 Chairs 1 Desk
15082 S. Walnut Caruthers, CA 93609	0 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 0 Denver Splitter 1 Chair 1 Desk
12797 South Elm Caruthers, CA 93609	5 Air Stream Sorter 4 Dried Fruit Moisture Tester 1 Sizer 2 Rehydrating/Dehydrating Oven 3 Grinder 4 Bag Filler 1 Bicycle 3 Hot Plate 1 Micro Sand Washer	6 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 6 Scales 4 Denver Splitter 6 Desks 4 File Cabinets 3 Tables 11 Chairs
5316 Del Rey Ave. Del Rey, CA 93616	2 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 3 Grinder 0 Bag Filler 1 Bicycle 1 Hot Plate 0 Micro Sand Washer	2 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 1 Denver Splitter 5 Chairs 1 Desk
3192 South Indianola Ave. Sanger, CA 93657	3 Air Stream Sorter 2 Dried Fruit Moisture Tester 1 Sizer 2 Rehydrating/Dehydrating Oven 2 Grinder 0 Bag Filler 1 Bicycle 3 Hot Plate 1 Micro Sand Washer	5 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 8 Scales 5 Denver Splitter 10 Chairs 4 Desks 3 File Cabinets

Exhibit 5

2 10

Field Location Directory

8700 South Leonard Fowler, CA 93625	0 Air Stream Sorter 0 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 0 Denver Splitter 0 Office Furniture
8898 East Central Ave. Sanger, CA 93657	0 Air Stream Sorter 0 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 0 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 0 Denver Splitter 0 Office Furniture
5287 South Del Rey Ave. Del Rey, CA 93616	4 Air Stream Sorter 5 Dried Fruit Moisture Tester 1 Sizer 2 Rehydrating/Dehydrating Oven 4 Grinder 1 Bag Filler 2 Bicycle 2 Hot Plate 1 Micro Sand Washer	6 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 6 Scales 3 Denver Splitter 8 Chairs 3 File Cabinets 1 Table
13467 W. Floral Fresno, CA 93706	0 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 1 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 1 Denver Splitter 0 Office Furniture
10715 East American Ave. Del Rey, CA 93616	5 Air Stream Sorter 6 Dried Fruit Moisture Tester 1 Sizer 2 Rehydrating/Dehydrating Oven 7 Grinder 6 Bag Filler 2 Bicycle 0 Hot Plate 1 Micro Sand Washer	4 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 8 Scales 6 Denver Splitter 6 Chairs 5 File Cabinets

Exhibit 5
3 10

Field Location Directory

26783 Road 176 Exeter, CA 93221	1 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 3 Hot Plate 1 Micro Sand Washer	3 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 1 Denver Splitter 1 Chair 1 Table 1 Desk 1 File Cabinet
980 Farmersville Blvd. Farmersville, CA 93625	0 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 1 Scales 0 Denver Splitter 1 Desk
10825 South West Ave. Fresno, CA 93706	3 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 2 Rehydrating/Dehydrating Oven 1 Grinder 3 Bag Filler 1 Bicycle 1 Hot Plate 1 Micro Sand Washer	3 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 3 Denver Splitter 7 Chairs 1 Table 4 Desk 2 File Cabinet
4466 North Dower Ave. Fresno, CA 93722	2 Air Stream Sorter 1 Dried Fruit Moisture Tester 1 Sizer 0 Rehydrating/Dehydrating Oven 2 Grinder 1 Bag Filler 0 Bicycle 1 Hot Plate 1 Micro Sand Washer	2 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 1 Denver Splitter 1 Chair 1 File Cabinet
2202 Monterey St. Suite 102 A Fresno, CA 93721	21 Air Stream Sorter 18 Dried Fruit Moisture Tester 5 Sizer 6 Rehydrating/Dehydrating Oven 35 Grinder 1 Bag Filler 2 Bicycle 7 Hot Plate 6 Micro Sand Washer	27 Inspection Lighting 8 Yankee Rotator 2 Micro Filter System 64 Scales 13 Denver Splitter 87 Chairs 23 File Cabinets 12 Wall Cabinets 9 Tables

Exhibit 5
4 10

Field Location Directory

3675 West Saginaw Fresno, CA 93609	0 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	1 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 1 Denver Splitter 1 Desk 1 File Cabinet
568 South Temperance Ave. Fresno, CA 93727	2 Air Stream Sorter 2 Dried Fruit Moisture Tester 1 Sizer 0 Rehydrating/Dehydrating Oven 3 Grinder 1 Bag Filler 1 Bicycle 1 Hot Plate 1 Micro Sand Washer	3 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 1 Splilter 7 Chairs 1 Desk 1 File Cabinet
1445 Nebraska Ave. Selma, CA 93662	3 Air Stream Sorter 2 Dried Fruit Moisture Tester 1 Sizer 1 Rehydrating/Dehydrating Oven 2 Grinder 0 Bag Filler 1 Bicycle 0 Hot Plate 1 Micro Sand Washer	2 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 4 Scales 0 Denver Splitter 9 Chairs 1 Desk
13538 South Locan Selma, CA 93662	2 Air Stream Sorter 1Dried Fruit Moisture Tester 0 Sizer 1 Rehydrating/Dehydrating Oven 3 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 1 Micro Sand Washer	3 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 1Scales 2 Denver Splitter 2 Chairs 2 File Cabinets 1 Desk
2601 N. Lake Ave. Kerman, CA 93630	0 Air Stream Sorter 0 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 0 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 0 Denver Splitter 0 Office Furniture

Exhibit 5

5 10

Field Location Directory

4601 N. Jameson Fresno, CA 93722	0 Air Stream Sorter 0 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 0 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 0 Denver Splitter 0 Office Furniture
3636 Grantland Ave. Fresno, CA 93722	6 Air Stream Sorter 5 Dried Fruit Moisture Tester 0 Sizer 1 Rehydrating/Dehydrating Oven 4 Grinder 2 Bag Filler 6 Bicycle 0 Hot Plate 1 Micro Sand Washer	4 Inspection Lighting 0 Yankee Rotator 1 Micro Filter System 5 Scales 6 Denver Splitter 15 Chairs 2 Desks 2 File Cabinets
11767 Road 27 ½ Madera, CA 93637	0 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 0 Denver Splilter 2 Chairs 1 File Cabinet 1 Desk
9500 S. Dewolf Selma, CA 93662	10 Air Stream Sorter 2 Dried Fruit Moisture Tester 1 Sizer 3 Rehydrating/Dehydrating Oven 3 Grinder 2 Bag Filler 6 Bicycle 0 Hot Plate 2 Micro Sand Washer	7 Inspection Lighting 2 Yankee Rotator 1 Micro Filter System 18 Scales 3 Denver Splilter 23 Chairs 13 Tables 6 Desks 6 File Cabinets 2 Wall Cabinets
2730 South Dewolf Ave. Sanger, CA 93657	2 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 1 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 1 Micro Sand Washer	1 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 1 Denver Splitter 0 Office Furniture

Exhibit 5

6 10

Field Location Directory

626 South 5th St. Fowler, CA 93625	5 Air Stream Sorter 2 Dried Fruit Moisture Tester 1 Sizer 2 Rehydrating/Dehydrating Oven 2 Grinder 5 Bag Filler 3 Bicycle 3 Hot Plate 1 Micro Sand Washer	9 Inspection Lighting 1 Yankee Rotator 1 Micro Filter System 9 Scales 6 Denver Splitter 18 Chairs 6 Tables 3 Desks 2 File Cabinets
Fresno, CA	1 Air Stream Sorter 0 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 0 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 3 Scales 0 Denver Splitter 0 Office Furniture
27400 Avenue 6 Madera, CA 93637	0 Air Stream Sorter 1 Dried Fruit Moisture Tester 1 Sizer 0 Rehydrating/Dehydrating Oven 0 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	2 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 2 Denver Splitter 2 Chairs 1 Desk 2 File Cabinets
4624 West Nebraska Caruthers, CA 93609	2 Air Stream Sorter 2 Dried Fruit Moisture Tester 0 Sizer 1 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 1 Hot Plate 1 Micro Sand Washer	3 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 2 Denver Splitter 2 Chairs 1 Desk 1 Stool 1 File Cabinet
4087 North Howard Kerman, CA 93630	5 Air Stream Sorter 2 Dried Fruit Moisture Tester 1 Sizer 3 Rehydrating/Dehydrating Oven 2 Grinder 1 Bag Filler 3 Bicycle 0 Hot Plate 1 Micro Sand Washer	2 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 8 Scales 2 Denver Splitter 11 Chairs 4 Desks 4 File Cabinets

Exhibit 5

Field Location Directory

4677 North Howard Kerman, CA 93630	0 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	1 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 0 Denver Splitter 1 Chair
12704 Avenue 232 Tulare, CA 93278	1 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 1 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 1 Scales 1 Denver Splitter 0 Office Furniture
25810 Avenue 11 Madera, CA 93637	2 Air Stream Sorter 2 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 2 Hot Plate 0 Micro Sand Washer	2 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 3 Scales 1 Denver Splitter 2 Chairs 1 Desk 1 File Cabinet 1 Table
8008 West Shields Ave. Fresno, CA 93722	2 Air Stream Sorter 2 Dried Fruit Moisture Tester 0 Sizer 1 Rehydrating/Dehydrating Oven 2 Grinder 1 Bag Filler 1 Bicycle 2 Hot Plate 1 Micro Sand Washer	1 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 3 Scales 4 Denver Splitter 5 Chairs 1 Desk 2 File Cabinets
6692 S. Peach Ave. Fresno, CA 93727	2 Air Stream Sorter 1 Dried Fruit Moisture Tester 1 Sizer 1 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 1 Hot Plate 1 Micro Sand Washer	1 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 1 Scales 1 Denver Splitter 2 Chairs 4 Desks

Exhibit 5

8 10

Field Location Directory

27421 Avenue 12 Madera, CA 93637	1 Air Stream Sorter 1 Dried Fruit Moisture Tester 1 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 1 Hot Plate 0 Micro Sand Washer	3 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 2 Scales 1 Denver Splitter 4 Chairs 2 Desks 1 File Cabinet
13525 South Bethel Ave. Kingsburg, CA 93631	15 Air Stream Sorter 7 Dried Fruit Moisture Tester 4 Sizer 3 Rehydrating/Dehydrating Oven 16 Grinder 2 Bag Filler 8 Bicycle 0 Hot Plate 2 Micro Sand Washer	2 Inspection Lighting 0 Yankee Rotator 1 Micro Filter System 22 Scales 3 Denver Splitter 45 Chairs 5 Desks 10 File Cabinets 1 Wall Cabinet 1 Bookcase
28390 Avenue 12 Madera, CA	0 Air Stream Sorter 0 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 0 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 0 Denver Splitter 0 Office Furniture
16350 Driver R. Bakersfield, CA 93308	0 Air Stream Sorter 0 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 0 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 0 Denver Splitter 0 Office Furniture
8107 South Lassen San Joaquin, CA 93660	2 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 1 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 1 Hot Plate 0 Micro Sand Washer	1 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 1 Scales 1 Denver Splitter 5 Chairs 1 Desk 1 File Cabinet

Exhibit 5

9 10

Field Location Directory

2500 South Fowler Ave. Fresno, CA 93725	0 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 0 Denver Splitter 1 File Cabinet
11687 Road 17 ½ Madera, CA 93637	5 Air Stream Sorter 3 Dried Fruit Moisture Tester 1 Sizer 2 Rehydrating/Dehydrating Oven 3 Grinder 1 Bag Filler 3 Bicycle 3 Hot Plate 1 Micro Sand Washer	6 Inspection Lighting 1 Yankee Rotator 1 Micro Filter System 6 Scales 4 Denver Splitter 9 Chairs 1 Desk 5 File Cabinets 2 Tables
Yettem, CA	0 Air Stream Sorter 1 Dried Fruit Moisture Tester 0 Sizer 0 Rehydrating/Dehydrating Oven 1 Grinder 0 Bag Filler 0 Bicycle 0 Hot Plate 0 Micro Sand Washer	0 Inspection Lighting 0 Yankee Rotator 0 Micro Filter System 0 Scales 1 Denver Splitter 1 Desk 1 File Cabinet

Exhibit 5

10 10

RAISIN INSPECTION EQUIPMENT

1.	Airstream sorter	127
2.	Dried Fruit Moisture Tester	113
3.	Sizer	24
4.	Rehydrating/Dehydrating	48
5.	Grinder	139
6.	Bag Filler	29
7.	Bicycle	56
8.	Hot Plate	47
9.	Micro Sand Washer	41
10.	Lab Lighting	135
11.	Micro Shaker	13
12.	Micro filter System	10
13.	Scales	276
14.	Denver Splitter	90
15.	Office Furniture	
	1. Chairs	314
	2. Desks	72
	3. File Cabinet	80
	4. Tables	26
	5. Stools	1
	6. Wall Cabinet	14

Exhibit 6

1 1

WRITTEN SERVICE WORK ORDER REQUEST

VIA FACSIMILE (559) 485-5914 TO: MAINTENANCE DEPARTMENT

DATE _____

DATE REQUIRED _____

PLANT _____

REQUESTED BY _____ **PHONE:** _____

TYPE OF EQUIPMENT AND SERIAL NUMBER

_____

SERVICE REQUIRED:

_____

_____

_____

_____

DO NOT WRITE BELOW THIS LINE. FOR OFFICE USE ONLY

TECHNICIAN ASSIGNED TO _____ **DATE** _____

DESCRIPTION OF WORK PERFORMED

_____

_____

_____

_____

_____

PARTS USED _____

COMPLETION DATE _____ **COMPLETED BY** _____

SUPERVISOR REVIEW AND SIGN OFF _____

COMMENTS

_____

_____

_____

_____

_____

Exhibit 7

FR-86

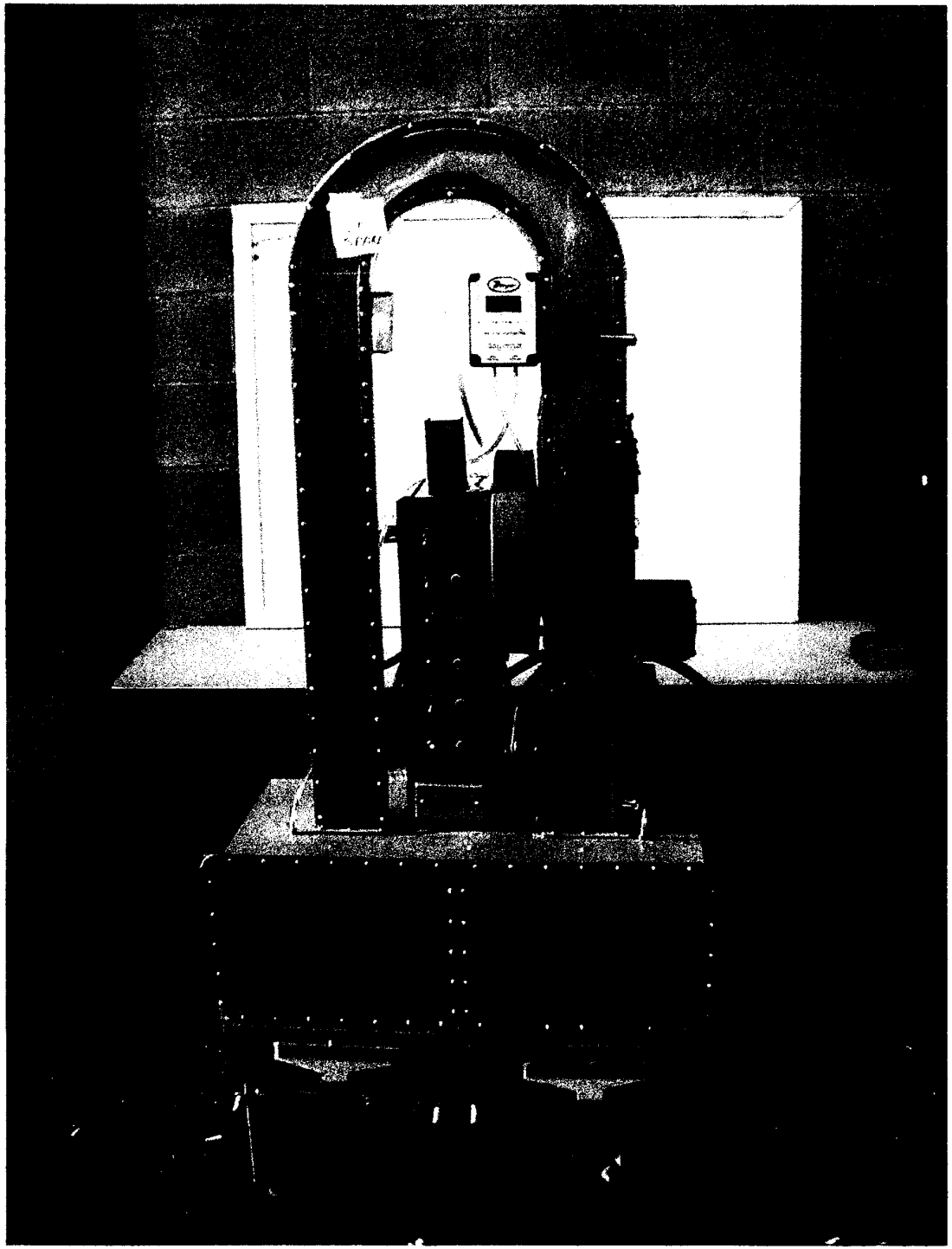


Exhibit 8 15
1

AIR STREAM SORTER
DIFFERENTIAL PRESSURE
TRANSMITTER

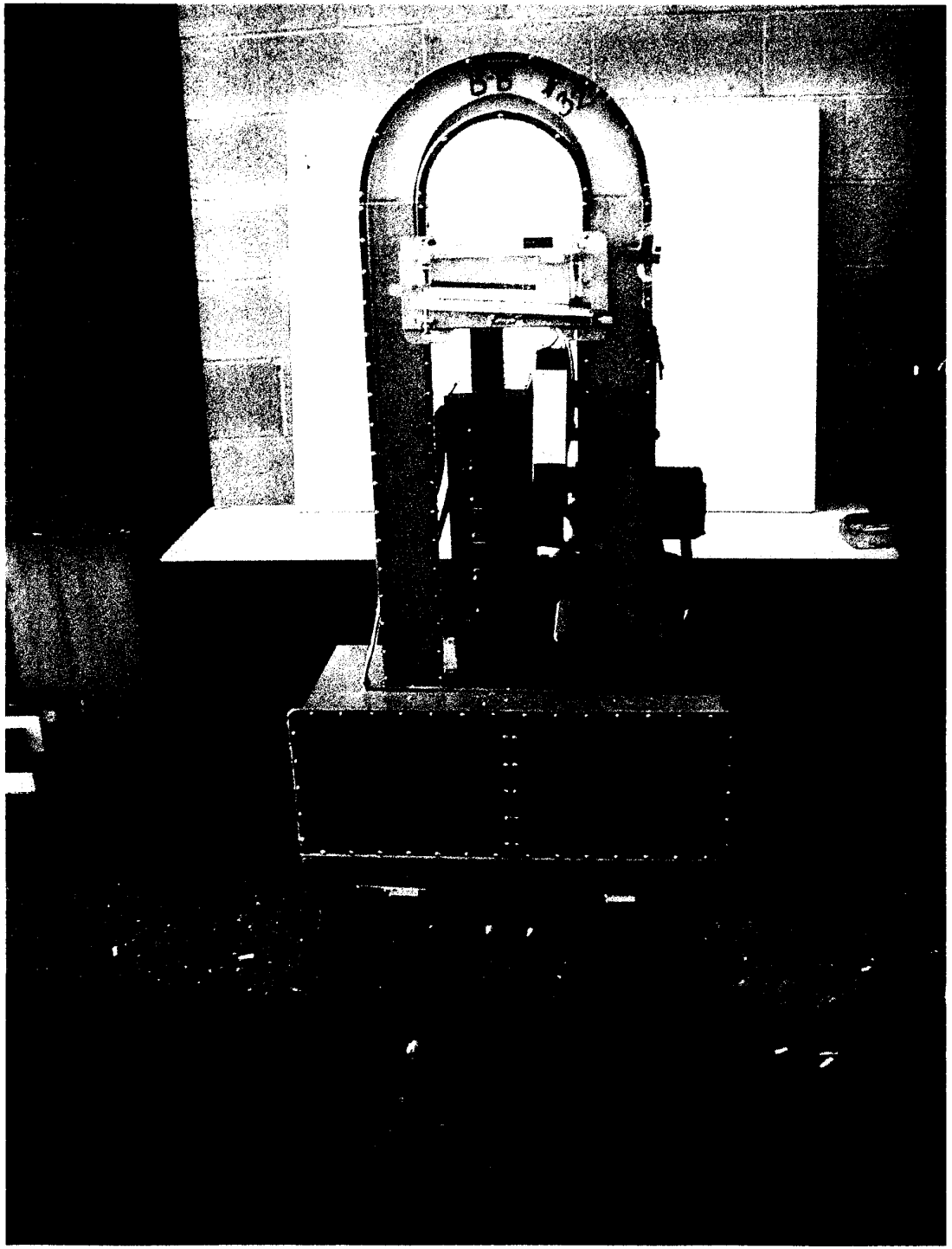


Exhibit 8
2 15

AIR STREAM SORTER
LIQUID MANOMETER

AIRSTEAM SORTER

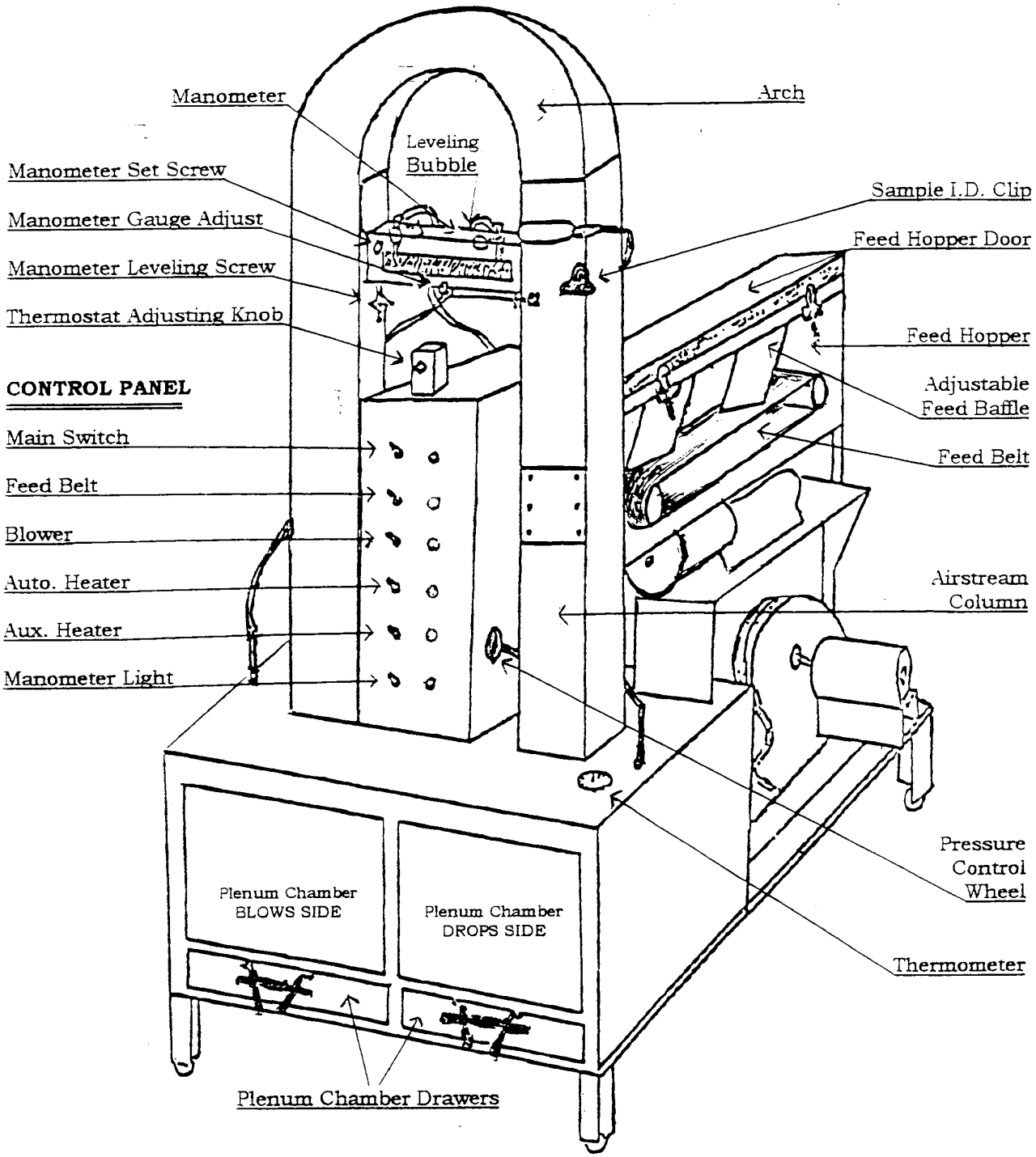


Exhibit 8

Page 3 15

SERIES 616W DIFFERENTIAL PRESSURE TRANSMITTER

Specifications - Installation and Operating Instructions

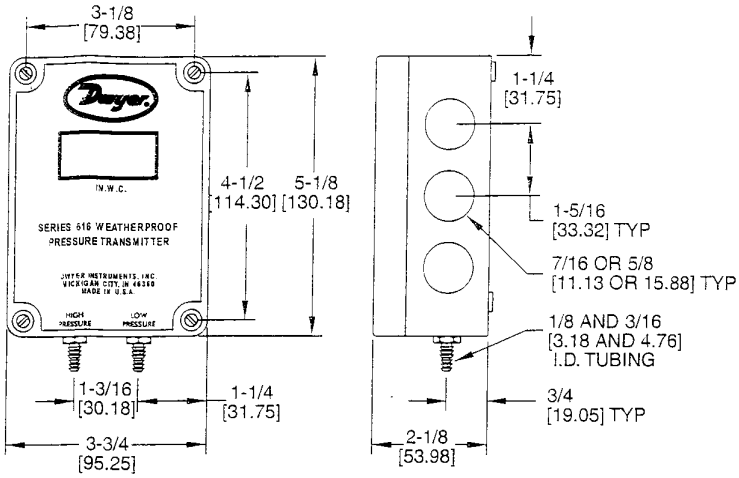


Fig. A

The Dwyer Series 616W Differential Pressure Transmitter senses the pressure of air and compatible gases and sends a standard 4-20 mA output signal.

All models, including those featuring LCD digital read-out, are factory calibrated to specific ranges, as listed in the chart to the right.

Positive, negative and differential pressures can be measured within a full span accuracy of ±0.5%. This weatherproof unit is enclosed in a polycarbonate case, rated (IP66/NEMA 4X).

The Span and Zero controls are for use when checking calibration. They are not intended for re-ranging to a significantly different span.

The transmitter's versatile circuit design enables operation in 2, 3 or 4-wire current loops.

SERIES 616W TRANSMITTER MODELS & RANGES

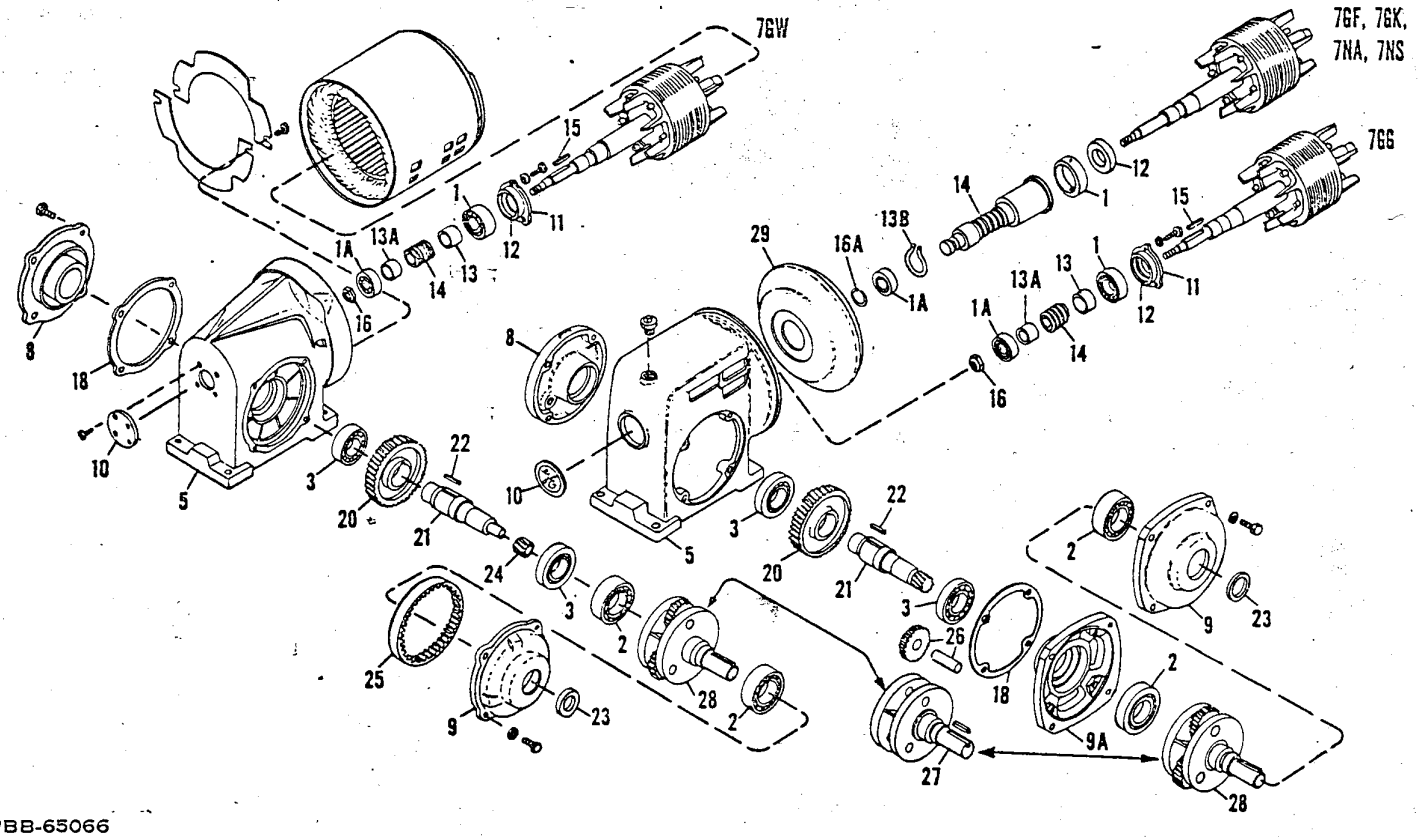
MODEL NUMBER	PRESSURE RANGE	MAXIMUM PRESSURE	DIGITAL DISPLAY	MODEL NUMBER	PRESSURE RANGE	MAXIMUM PRESSURE	DIGITAL DISPLAY
616W-0	0-2 in.w.c.	10 in.w.c.	-	616W-3-LCD	0-10 in.w.c.	5 psig	0-10.00
616W-1	0-3 in.w.c.	10 in.w.c.	-	616W-4-LCD	0-20 in.w.c.	11 psig	0-20.0
616W-2	0-6 in.w.c.	5 psig	-	616W-5-LCD	0-40 in.w.c.	11 psig	0-40.0
616W-3	0-10 in.w.c.	5 psig	-	616W-6-LCD	0-100 in.w.c.	29 psig	0-100.0
616W-4	0-20 in.w.c.	11 psig	-	616W-7-LCD	0-200 in.w.c.	29 psig	0-200
616W-5	0-40 in.w.c.	11 psig	-	616W-8-LCD	0-10 psid	58 psig	0-10.0
616W-6	0-100 in.w.c.	29 psig	-	616W-9-LCD	0-20 psid	58 psig	0-20.0
616W-7	0-200 in.w.c.	29 psig	-	616W-10-LCD	0-30 psid	58 psig	0-30.0
616W-8	0-10 psid	58 psig	-	616W-11-LCD	0-50 psid	150 psig	0-50.0
616W-9	0-20 psid	58 psig	-	616W-12-LCD	0-100 psid	150 psig	0-100.0
616W-10	0-30 psid	58 psig	-	616W-3B-LCD	1.5-0-1.5 in.w.c.	10 in.w.c.	-1.50-0-1.50
616W-11	0-50 psid	150 psig	-	616W-6B-LCD	3-0-3 in.w.c.	5 psig	-3.00-0-3.00
616W-12	0-100 psid	150 psig	-	616W-10B-LCD	5-0-5 in.w.c.	5 psig	-5.00-0-5.00
616W-3B	1.5-0-1.5 in.w.c.	10 in.w.c.	-	616W-20B-LCD	10-0-10 in.w.c.	11 psig	-10.00-0-10.00
616W-6B	3-0-3 in.w.c.	5 psig	-	616W-1M-LCD	0-750 Pa	2500 Pa	0-750
616W-10B	5-0-5 in.w.c.	5 psig	-	616W-2M-LCD	0-1.5 kPa	34.5 kPa	0-1.50
616W-20B	10-0-10 in.w.c.	11 psi	-	616W-3M-LCD	0-2.5 kPa	34.5 kPa	1-2.50
616W-0-LCD	0-2 in.w.c.	10 in.w.c.	0-2.00	616W-4M-LCD	0-5 kPa	75.8 kPa	0-5.00
616W-1-LCD	0-3 in.w.c.	10 in.w.c.	0-3.00	616W-5M-LCD	0-25 kPa	200 kPa	0-25.0
616W-2-LCD	0-6 in.w.c.	5 psig	0-6.00				

DWYER INSTRUMENTS, INC.
P.O. BOX 373 • MICHIGAN CITY, INDIANA 46361 U.S.A.
Phone: 219/879-8000
Fax: 219/872-9057
Lit-by-Fax: 888/891-4963
www.dwyer-inst.com
e-mail:info@dwyer-inst.com

800-SERIES GEAR UNITS

WORM-PLANETARY, RIGHT-ANGLE-SHAFT

For G-E Fractional-Horsepower Gear-Motors



Representative illustration of gear parts

PRINCIPAL RENEWAL PARTS

Motor, Model No. _____

Gear, Model No. _____

Exhibit 8

Page 5 of 15

Read the Gearmotor Installation and Maintenance Information Manual 85707 included with this product before installing or performing maintenance. Read this document carefully before attempting to disassemble, reassemble, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and / or property damage! Retain instructions for future reference.

Dayton® Split Phase Gearmotors

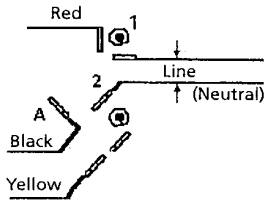
Refer to Form 85707 for Safety and Installation, Operation and Maintenance Instructions and Warranty Information

⚠WARNING ***Make certain power supply is disconnected before attempting to service or remove any components! If the power disconnect point is out-of-sight, lock it in the open position and tag to prevent unexpected application of power.***

Disassembly Instructions

1. Remove any burrs or sharp edges from the output shaft, especially at the keyway, by filing. This practice will avoid damaging the grease seal or output shaft when the gearcase cover is removed.
2. Remove the screws from the face of the gearcase.
3. With the unit resting with the output shaft up, remove the cover.
4. With the gearcase now disassembled, the gears can be removed.
5. The motor assembly may be disassembled by removing the screws from the rear of the motor. The motor stator can now be removed. If necessary, a slight tapping with a rawhide mallet will help removal. The rotor can be removed by gently pulling it from gearcase.
6. The oil seal can be removed by gently prying it from the front of the gearcase. If it is an O-ring type, it removes easily with a small screwdriver.

Wiring Diagram



To Reverse Interchange Red and Black Motor Leads

Reassembly Instructions

1. Assemble rotor and stator gearcase carefully.
2. Clean out gearcase completely and replace gears. Now replace lubricant into gearcase. Never mix different types of lubricants.
3. If oil seal was removed, clean cavity seat and insert new seal. If unit has gasket, replace with new one.
4. Place cover over mating gearcase half, insert screws and tighten.
5. Start and stop unit several times to ensure no parts are binding.

Lubrication

This unit is lubricated at the factory and should not require relubrication under normal running conditions. Use 3 oz. of Syn Tech Grease #NS-3091-G available from Grainger Parts Operations when needed.

⚠ CAUTION ***Completely clean the old lubricant from the gear box before adding fresh lubricant. UNDER NO CIRCUMSTANCES SHOULD DIFFERENT TYPES OF LUBRICANTS BE MIXED!***

Dayton Product Specific Information Manual
5K933C, 5K934C, 5K935C, 5K939D, 5K940D, 5K941C, 5K942D and 6K993C

For Replacement Parts, call 1-800-323-0620

24 hours a day – 365 days a year

Please provide the following information:
-Model number
-Serial number (if any)
-Part description and number as shown in parts list

Address parts correspondence to:
Grainger Parts Operations
P.O. Box 3074
1657 Shermer Road
Northbrook, IL 60065-3074 U.S.A.

ENGLISH

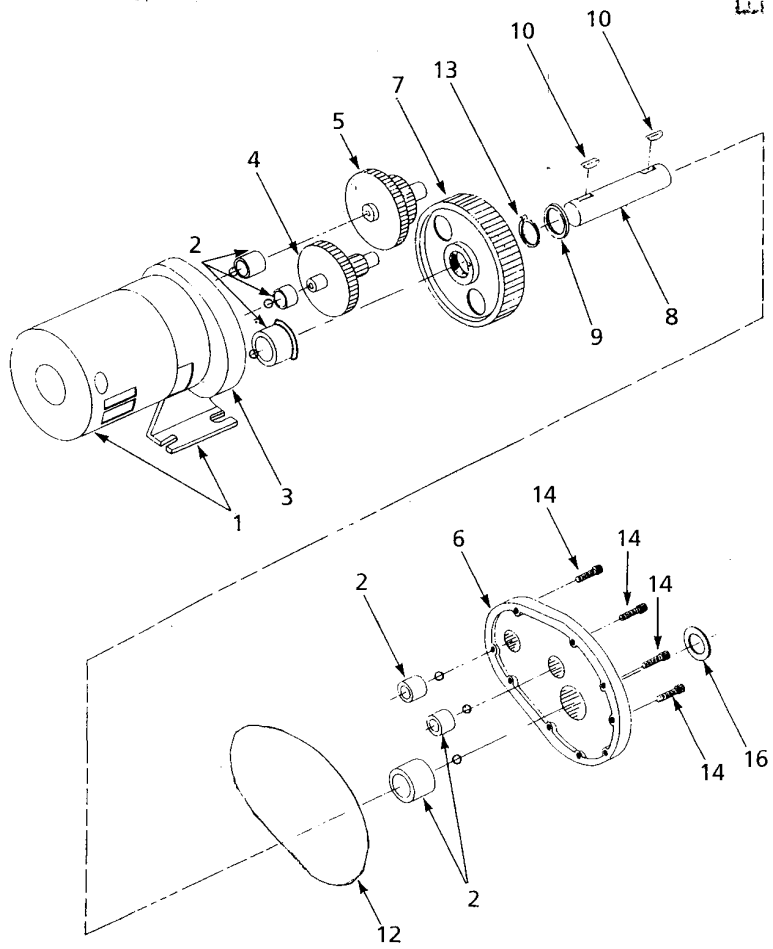


Exhibit 8 of 15
Page 6

Durablock® Solid Plastic Stationary Gages

Dwyer solid plastic stationary gages – or draft gages – are offered in inclined and vertical (well-type) styles for highly accurate laboratory or general industrial service, for measurement of low range gas and air pressures, positive, negative or differential. To assure the accuracy required in instruments of this type, all machining of bores and wells is to the highest standards of precision backed by Dwyer's years of experience in the fabrication of acrylic instruments.

Design and Service Features

- **1" Thick Acrylic Plastic Body** is a solid block, virtually unbreakable, stable and free of the danger of distortion.
- **Drilled Bores Accurate To ±.0002"** is stable, free of bends or crooks, will never require recalibration because of distortion.
- **Selected Gage Oil** with high wetability characteristics forms a consistent, well shaped meniscus for most accurate reading.
- **Adjustable Reflective Polished Aluminum Scales** with thumbscrew locking for easy zeroing.
- **Parallax-Free Reading** for maximum accuracy and consistency is achieved by simply aligning the meniscus with its image reflected in the scale.
- **Over-Pressure Safety Traps** prevent loss of fluid due to over range pressures or surges in pressure. (Not required on No. 215.)
- **Leveling Adjustment** for inclined style gages is achieved by simply loosening a locking thumb screw on the side or bottom of the gage, adjusting with reference to the integral sensitive ground glass bubble level and retightening.
- **Heavy Gauge Steel Mounting Panels** are gray hammerloid finished.

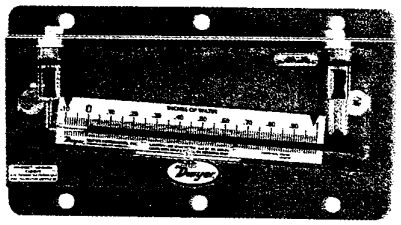


Fig. 6-1. No. 200.5 solid plastic inclined style stationary gage with .10-0-1.0" W.C. range.

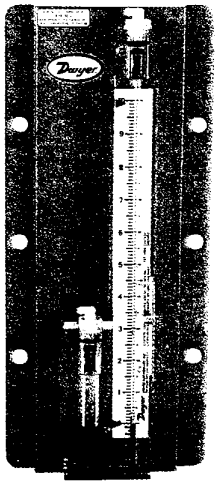


Fig. 6-2. No. 310 solid plastic vertical style stationary gage with 0-10" W.C. range.

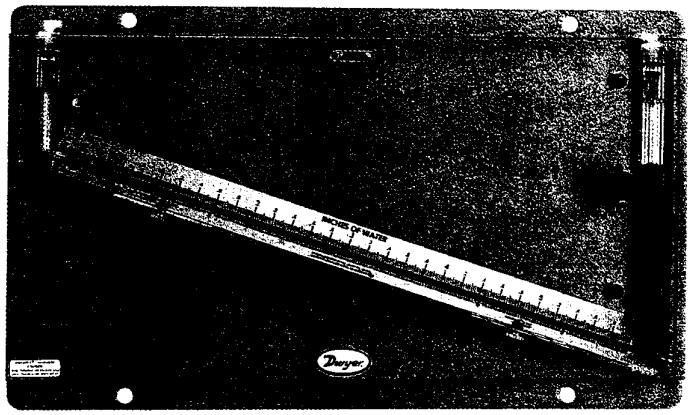


Fig. 6-3. No. 246 solid plastic inclined style stationary gage with 0-6" W.C. range.

Kits For Air Filter Gage Service

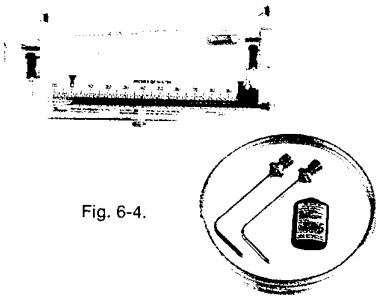


Fig. 6-4.

Dwyer solid plastic gages and other gages are available in kits especially developed for air filter gage service. They include the gage, two static pressure tips with integral compression fittings and two 5 foot lengths of ¼" aluminum tubing. The static pressure tips are installed in the duct upstream and downstream of the filter and connected to the gage to provide a continuous visual indication of the static pressure drop across the filter. When the filter's resistance in terms of static pressure drop reaches the maximum specified by the filter manufacturer, it is an indication that the filter should be cleaned or replaced.

For complete details on Dwyer Air Filter Gage kits, refer to Pressure Section, Air Filter Gages and Switches.

Exhibit 8

Page 7 of 15

Ranges And Dimensions

Suitable for total pressures up to 100 psig, temperatures up to 150°F.
Accuracy ±2% of full scale (1% on models 215, 244, 246 only)

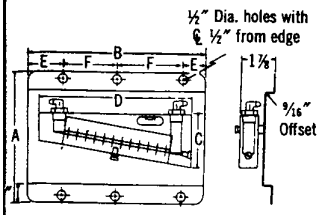


Fig. 7-1.

STOCKED MODELS — INCLINED TYPE

Model No.	Range Inches of Water	Minor Scale Divisions	Scale Length Inches	Dimensions, Inches A	B	C	D	E	F	Weight lbs-oz.	Price
200	.10-0-1.0	.02	5½	7	10	4⅛	8½	2	3	2-14	$123.50
200.5	.10-0-1.0	.01	8¼	7	13	3 15/16	11⅜	2	4½	3-11	136.50
201	.05-0-.50	.01	5½	7	10	3 15/16	8¼	2	3	2-12	135.50
202	.20-0-2.0	.02	8¼	9	13	5½	11⅛	2	4½	4-5	149.00
202.5	.20-0-2.0	.01	8¾	9	13	5⅝	12	2	4½	4-7	161.00
209	.20-0-3.0	.02	8¾	9	13	7	11¼	2	4½	4-11	160.00
215	.05-0-.25	.005	6	7	10	3 1/16	9½	2	3	2-14	140.00
244	0-4	.02	13¼	11	16½	8⅛	15⅝	4	8½	9-11	208.00
246	0-6	.02	20	13½	23	11	22	4	15	13-14	238.50

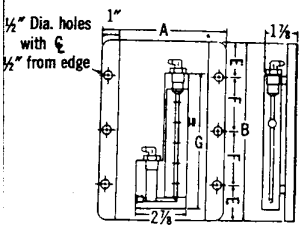


Fig. 7-2.

STOCKED MODELS — VERTICAL OR WELL-TYPE

Model No.	Range, Inches of Water	Minor Scale Divisions	Scale Length Inches	Dimensions, Inches A	B	E	F	G	Weight lbs-oz.	Price
300	0- 4	.10	4½	7	10	2	3	8¼	2-5	$127.00
306	0- 6	.10	7¾	7	16	4	4	10⅝	3-3	135.50
308	0- 8	.10	9	7	16	4	4	13 3/16	3-7	156.00
310	0-10	.10	11⅛	7	16	4	4	15¼	3-10	158.00

STANDARD ACCESSORIES: One extra bottle of .826 red gage oil, instructions and one set of type "a" connections, described below, unless other connection option is specified.

A-396A Calibration Pump — Use as pressure source to calibrate gages, set switches, etc. Has volume adjuster, bleed valve and fine adjustment for pressures up to 72 psi (5 bar). Accessories include barbed fitting, tee connector, three 36 in. lengths of vinyl tubing and instructions.

Price. . . . . $215.50 Ⓑ

Ⓑ Items subject to Schedule B discounts.

Over-Pressure Safety Traps Prevent Fluid Loss

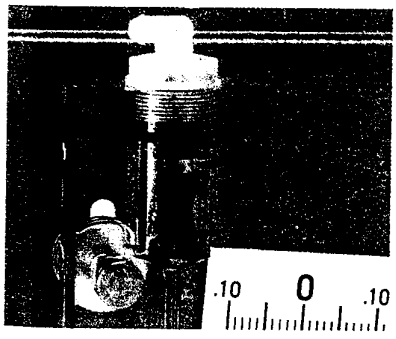


Fig. 7-3. Exclusive Dwyer over pressure safety traps assure that over range pressures whether gradual or a sudden surge will not force the liquid out of the gage. Over pressures simply float the cork, force the O-ring over the opening and seal the fluid in the gage. When pressure is reduced, cork drops down releasing the O-ring to open trap and gage continues in operation.

Connection Options For Dwyer Solid Plastic Stationary Gages

Unless otherwise specified, Dwyer solid plastic stationary gages will be furnished with Type "a" connections consisting of two rapid shutoff type, molded nylon tubing connectors (see Fig. 5-3, page 24), two 3ft. lengths flexible Tygon plastic tubing, and two ⅛" pipe thread adapters.
If so specified on the order, Dwyer solid plastic stationary gages will be furnished with your choice of the following connection options:

Type "b": Two molded nylon tubing connectors, rapid shutoff type, one 9' length rubber tubing, and one brass terminal tube.

Type "c": Two ⅛" pipe thread openings.

Type "d": Two compression fittings for ¼" O.D copper or aluminum tubing.

Type "e": 3-way vent valves, ⅛" S.P.T. to ¼" metal tubing, at additional cost.

Cat. No. A-315

Fig. 7-4. Type "a" and "b"

Cat. No. A-316

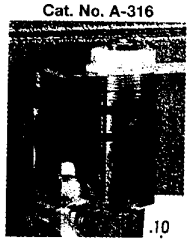


Fig. 7-5. Type "c" with shipping plugs in place.

Cat.Nos. A-316 & A-324

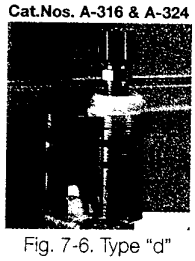


Fig. 7-6. Type "d"

Cat.Nos. A-316 &A-310

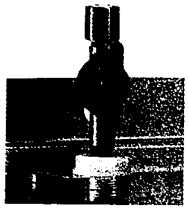


Fig. 7-7. Type "e"

Dwyer® Manometers

Pressure is defined as a force per unit area – and the most accurate way to measure low air pressure is to balance a column of liquid of known weight against it and measure the height of the liquid column so balanced. The units of measure commonly used are inches of mercury (in. Hg.), using mercury as the fluid and inches of water (in. W.C.), using water or oil as the fluid.

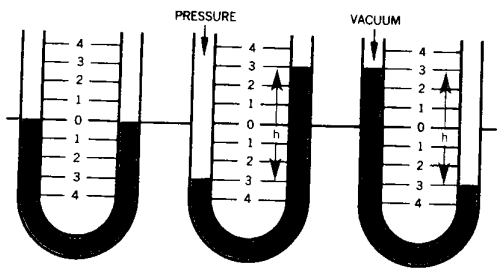


Fig. 2-1. In its simplest form the manometer is a U-tube about half filled with liquid. With both ends of the tube open, the liquid is at the same height in each leg.

Fig. 2-2. When positive pressure is applied to one leg, the liquid is forced down in that leg and up in the other. The difference in height, "h," which is the sum of the readings above and below zero, indicates the pressure.

Fig. 2-3. When a vacuum is applied to one leg, the liquid rises in that leg and falls in the other. The difference in height, "h," which is the sum of the readings above and below zero, indicates the amount of vacuum.

Instruments employing this principle are called manometers. The simplest form is the basic and well-known U-tube manometer. (Fig. 2-1). This device indicates the difference between two pressures (differential pressure), or between a single pressure and atmosphere (gage pressure), when one side is open to atmosphere. If a U-tube is filled to the half way point with water and air pressure is exerted on one of the columns, the fluid will be displaced. Thus one leg of water column will rise and the other falls. The difference in height "h" which is the *sum* of the readings above and below the half way point, indicates the pressure in inches of water column.

The U-tube manometer is a primary standard because the difference in height between the two columns is always a true indication of the pressure regardless of variations in the internal diameter

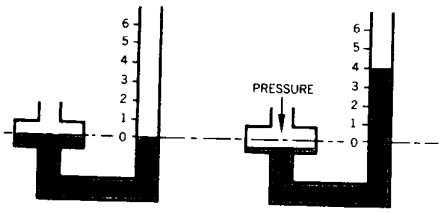


Fig. 2-4. At left, equal pressure is imposed on the fluid in the well and in the indicating tube. Reading is zero. At the right, a positive pressure has been imposed on the liquid in the well causing the level to go down very slightly. Liquid level in indicating tube has risen substantially. Reading is taken directly from scale at liquid level in indicating tube. The scale has been compensated for the drop in level in the well.

FACTORS AFFECTING MANOMETER

While the basic manometer principle of hydrostatic balance is inherently 100% accurate there are factors that can affect the actual pressure measurement obtained. Careful design and construction plus careful usage can eliminate or greatly reduce the effect of these factors.

CHARACTERISTICS OF INDICATING FLUID. No manometer can be read more accurately than the accuracy with which the specific gravity of the fluid is known. The fluid must also have good "wetting" characteristics and be capable of forming a consistent, well shaped meniscus in the indicating tube to facilitate accurate, repeatable readings.

The fluid used also affects the operating range of the manometer. Mercury being 13.6 times the weight of water will move 1/13.6th the distance water will move in response to a given pressure. Dwyer .826 sp. gr. gage oil being lighter than water will move about 1.2 times farther than water in response to a given pressure. This, obviously, expands the scale for easier, more precise reading.

Dwyer U-tube and well-type manometers are furnished with inch scales for use with water or mercury or adjusted scales for use with .826 sp. gr. gage oil. Dwyer solid plastic vertical, inclined and inclined-vertical gages use gage oil.

Dwyer colored gage oil is a stable petroleum base oil with carefully controlled specific gravity which gives an excellent, consistent, high visibility meniscus. Dwyer manometers for use with water are furnished with a fluorescein green concentrate which when added to water serves as a wetting agent and a dye to improve the consistency and visibility of the meniscus for easier more accurate readability.

READABILITY. As we have seen, inclining the indicating tube and scale of a manometer., the use of lower specific gravity indicating fluids and the use of fluids that give a uniform, well defined meniscus facilitate accurate reading. Scales must be clear, sharp, accurate and easy to read. For accuracy, it is essential that the

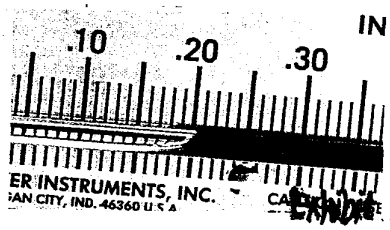


Fig. 2-5. Portion of the scale of a Dwyer No. 250.5 solid plastic inclined manometer shown full size. Parallax free reading is made by aligning meniscus with its reflection in the polished scale.

Dwyer Instruments, Inc. P.O. Box 373/Michigan City, Indiana 46361/Phone 219 879-8000/Fax 219 872-9057 • U.K. Phone (01494)-461707 • Australia Phone (02) 9756-5355

of the tubing. This principle makes even the Dwyer Slack-Tube® *roll-up* manometer as accurate as a laboratory instrument. This provides a real convenience to the person who might otherwise have to board an airplane carrying a 60" long rigid glass U-tube manometer.

VARIATIONS IN MANOMETER DESIGN

To overcome the U-tube requirement of readings at two different places, the well-type manometer was developed. See Fig. 2-4. The reservoir (well) may be made large enough so that the change of level in the reservoir is negligible, or the scale may be compensated for the change in reservoir liquid level. For purposes of a more practical instrument the Dwyer well-type manometer uses a precision bored well that requires approximately a 10% scale correction for well drop effect, thus avoiding an overly large and bulky reservoir.

To improve and expand readability, certain Dwyer U-tube and well-type manometers are available with a .826 sp. gr. red oil indicating fluid, and scales compensated to read pressure directly in inches of water. To further increase readability and sensitivity the well-type manometer indicating tube is inclined, as in Fig. 3-1, to cause a greater linear movement along the tube for a given pressure difference. The inclined manometer is frequently called a Draft Gage because it is widely used for determining the over-fire draft in boiler uptakes and flues.

For an inclined manometer to be a primary device, the inclined tube must be straight and uniform. Dwyer's precision machined solid plastic construction has been applied to a basic line of rugged manometers, inclined and inclined-vertical, which are industry accepted as primary instruments. See discussion below.

The combination of an inclined and a vertical manometer is very useful in air movement determination. See Fig. 3-2. For air velocity measurement, an inclined scale, generally up to 1" W.C. is used (1" W.C. velocity pressure=4000 fpm). In the Dwyer Durablock® inclined-vertical instrument, this scale is combined with a vertical section allowing readings of high pressures, usually 1" W.C. to 5 to 10" W.C., to be taken. The vertical section is used primarily for determining static pressure above the range of the inclined section.

Many special purpose types of manometers exist. Examples are the Dwyer Hook Gage and Microtector®. These are simply U-tube manometers modified so the liquid level can be read with a micrometer, yet retaining the basic "Physics" of the hydrostatic U-tube primary standard. Readings accurate to ±.001" W.C. in a range of differential pressures from 0-24" W.C. are accomplished with Dwyer Model No. 1425-24 Hook Gage. The Model 1430 Microtector® incorporates modern electronics to increase the accuracy of readings to ±.00025" W.C. on a 2" W.C. scale.

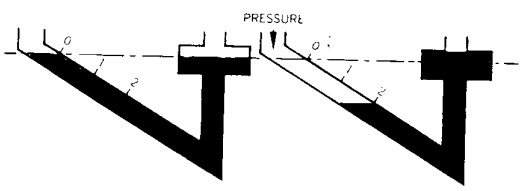


Fig. 3-1. At left, equal pressure is imposed on the liquid in the well and the indicating tube. Reading is zero. At the right, a positive pressure has been imposed on the liquid in the indicating tube pushing it down to a point on the scale equal to the pressure. Liquid level in the well rises proportionately. Inclining the indicating tube has opened up the scale to permit more precise reading of the pressure.

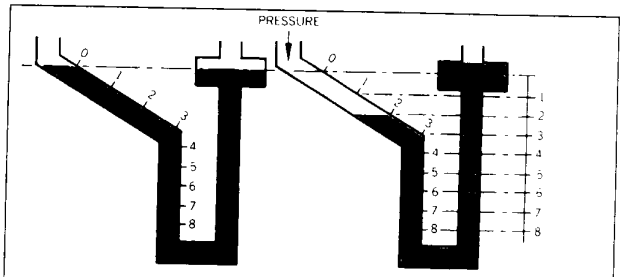


Fig. 3-2. At left with equal pressure on liquid in well and indicating tube, reading is zero. When positive pressure is imposed on liquid in indicating tube, liquid level is depressed in tube and rises slightly in well. Reading is direct since scale is compensated for change of level in well.

PERFORMANCE AND USAGE

readings be made with the line of sight perpendicular to the fluid column to eliminate parallax error.

Dwyer solid plastic manometers assure parallax-free readings by the use of silk-screened scales on polished aluminum which reflect the image of the meniscus. When the meniscus and its reflection are aligned, the line of sight is perpendicular to the fluid column at the meniscus and an accurate reading is assured. Smoothly machined bores further enhance the visibility of the meniscus.

LEVELING. Accurate readings with inclined and inclined-vertical manometers require that the inclined portion of the scale be at the exact angle for which it is designed. All Dwyer solid plastic inclined and inclined-vertical manometers are equipped with integral, sensitive spirit levels to facilitate this requirement; most also have a screw type leveling adjustment.

FACTORS IN DESIGN AND MANUFACTURE THAT AFFECT INCLINED MANOMETER ACCURACY

1. "Well Drop" (ratio of the area of the reservoir to the area of the indicating tube). As the fluid rises or falls in the indicating tube the level in the reservoir will fall or rise correspondingly and the scale must be compensated accordingly. Inaccuracies in the diameter of the reservoir or the indicating tube will create errors in this compensation. In glass tube instruments this error can only be minimized by a large ratio of reservoir to indicating tube area, by the use of precision bore tubing or by both. In the Dwyer solid plastic design, the use of machining techniques accurate to .0002" for wells and indicating bores reduces this error to insignificance.

2. Indicating Bore Straightness. This is a very real problem with glass tubing. Even with precision bore glass tubing, concentricity between I.D. and O.D. is difficult to control. Additionally, there is the problem of supporting the tube by its O.D. in perfect linearity with its I.D. Magnitude of error from this cause is, therefore, a function of the quality of this particular piece of precision bore tubing and the manner of tube mounting. Variations in accuracy from gage to gage and in a given gage over a period of time can be anticipated as the tube is bumped or bent in use. In contrast, indicating tube bores up to 24" long in Dwyer solid plastic manometers are straight to within .002" over their entire length. It should also be noted that in the Dwyer design with a massive solid block of acrylic plastic, this straightness tolerance is effective for the life of the instrument.

Exhibit 8

PHYSICAL DATA

Pressure Connections: Barbed, dual size to fit 1/8" and 3/16" (3.2 and 4.8 mm) I.D. rubber or vinyl tubing.
Media Compatibility: Air and compatible, non-corrosive, non-combustible gases.
Electrical Connections: Screw-type terminal block.
Housing: Gray Polycarbonate (IP66/NEMA 4X).
Adjustments: Potentiometers for zero and span.
Weight: 9 ounces (255 grams)
10 ounces (283 grams) - LCD.

ELECTRICAL

Power Supply: 10-35 VDC (2, 3 or 4 wire), 16-26 VAC (4-wire).
Output Signal: 4-20 mA DC (limited at 38 mA DC).
Loop Resistance: DC; 0-1300 ohms maximum.
AC; 0-1200 ohms maximum.
Current Consumption: DC; 38 mA maximum
AC; 76 mA maximum.

PERFORMANCE AT 70°F (21.1°C)

Zero Output: 4 mA DC.
Full Span Output: 16 mA DC.
Accuracy: ±0.5% of full span output.
Span and Zero: Adjustable to 0.05% of full span.
Warm-up Time: 10 minutes.
Stability: 1% per full span per year.

ENVIRONMENTAL

Operating Temperature: 20 to 120°F (-6.7 to 49°C).
Thermal Errors: ± 0.02 %/ °F typical.

INSTALLATION

1. Location: Select a clean, dry mounting location free from excess vibration where the temperature will remain between 20 and 120°F (-6.7 and 49°C). Distance from the receiver is limited only by total loop resistance. See Electrical Connections below. The tubing supplying pressure to the instrument can be practically any length required, but long lengths will increase response time slightly.

2. Position: A vertical position, with the pressure connection pointing down, is recommended. That is the position in which all standard models are spanned and zeroed at the factory. They can be used at other angles, but final spanning and zeroing must be done while transmitter is in that alternate position.

3. Pressure Connections: Two integral barbed tubing connections are provided. They are dual-sized to fit both 1/8" and 3/16" (3.2 and 4.8 mm) I.D. tubing. Be sure the pressure rating of the tubing exceeds that of the operating range. On ranges over 20 psi, we recommend use of a suitable hose clamp to assure the integrity of the connection.

ELECTRICAL CONNECTIONS

CAUTION: Do not exceed specified supply voltage ratings. Permanent damage not covered by warranty will result. This unit is not designed for 120 or 240 volts AC line operation.

Electrical connections are made to the terminal block located on the inside of the transmitter. Terminals are marked 1, 2, 3 and 4. See Fig. B below. Determine which of the following circuit drawings applies to your application and wire accordingly.

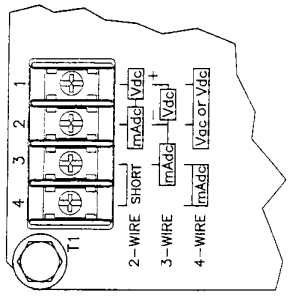


Fig. B

Wire Length - The maximum length of wire connecting transmitter and receiver is a function of wire size and receiver resistance. Wiring should not contribute more than 10% of the receiver resistance to total loop resistance. For extremely long runs (over 1000 feet), choose receivers with higher resistance to minimize size and cost of connecting leads. Where wiring length is under 100 feet, hook-up wire as small as 22 AWG can be used.

2-Wire Operation - An external power supply delivering 10-35 VDC with minimum current capability of 40 mA DC (per transmitter) must be used to power the control loop. See Fig. C for connection of the power supply, transmitter and receiver. Note the jumper between terminals 3 and 4. The range of appropriate receiver load resistance (R_L) for the DC power supply voltage available is expressed by the formula and graph in Fig. F. Shielded two wire cable is recommended for control loop wiring. If grounding is required, use the negative side of the control loop after the receiver. Otherwise, in 2-wire operation it is not necessary to observe polarity of control loop connections.

2-Wire Connections

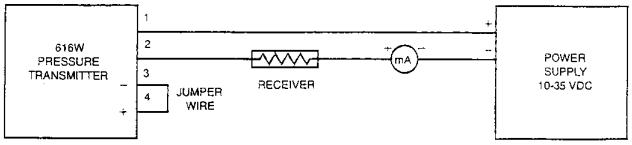


Fig. C

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3-Wire Operation - An external power supply delivering 10-35 VDC with minimum current capability of 40 mA DC (per transmitter) is required. See Fig. D for connection of power supply, transmitter and receiver. The range of appropriate receiver load resistance (R_L) for the DC power supply available is expressed by the formula and graph in Fig. F. Shielded cable is recommended for control loop wiring. Do not employ a separate ground in 3-wire operation. Unit will not function properly and/or damage could result. Control loop polarity must be observed in the following respect. Although power supply terminals 1 and 2 are not polarized, the receiver must be connected between terminal 3 of transmitter and negative side of power supply.

3-Wire Connections

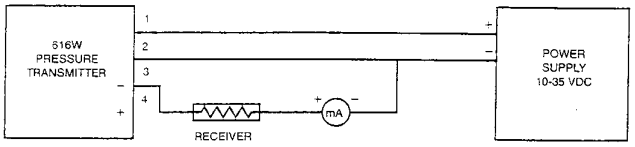

Fig. D

4-Wire Operation - An external power supply delivering 10-35 VDC with a minimum current capability of 40 mA DC (per transmitter) or 16-26 VAC with a minimum current capability of 80 mA AC (per transmitter) is required. See Fig. E for connection of power supply, transmitter and receiver. The range of appropriate load resistance (R_L) for the DC or AC power supply available is expressed by the formulas and graphs in Figs. F and G. Shielded cable is recommended for control loop wiring. Do not employ a separate ground in 4-wire operation. Unit will not function properly and/or damage could result. Control loop polarity must be observed; terminal 3 is negative and terminal 4 is positive.

4-Wire Connections

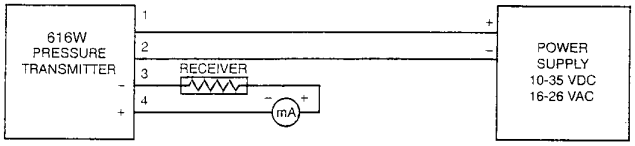

Fig. E

Power Supply Voltage - VDC (2, 3 or 4-Wire)

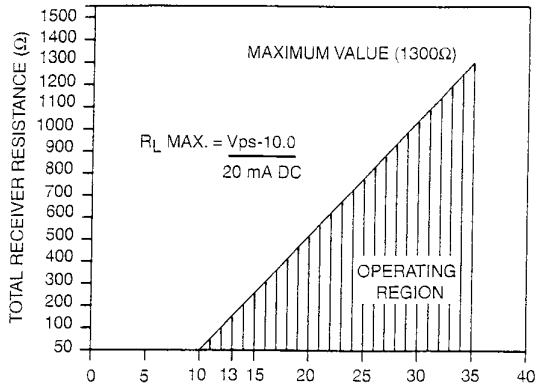

Fig. F

Power Supply Voltage - VAC (4-Wire)

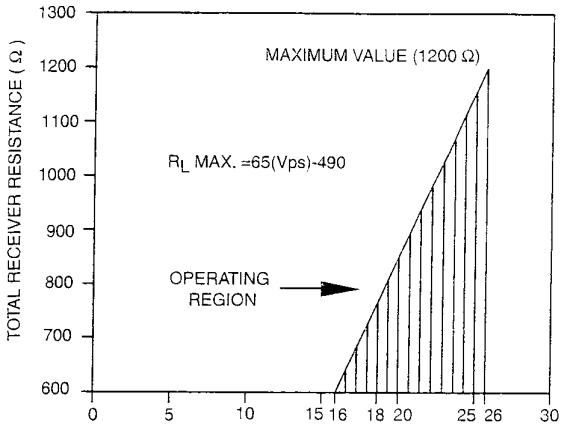

Fig. G

Calibration Check - Each Series 616W Transmitter is factory calibrated to the range given in the model chart. To check calibration and adjust if necessary, the following procedure should be used. For purposes of clarification in these instructions, range is defined as that pressure which, applied to the transmitter, produces 20 milliamps of current in the loop. Zero pressure is always assumed to be 4 milliamps.

1. With the transmitter connected to the companion receiver, insert an accurate milliameter in series with the current loop. Full scale range should be approximately 30 mA.

2. Connect a controllable pressure source to one leg of a tee with the other two legs connected to the high pressure port of the transmitter and the third leg to an accurate test gage or manometer, in an appropriate range. The low pressure port should be vented to atmosphere. Calibration must be performed with the unit in the same position in which it will be mounted.

3. Apply electrical power to the unit and allow it to stabilize for 10 minutes.

4. With no pressure applied to the transmitter, adjust ZERO control so that loop current is 4 mA. See Fig. K.

5. Apply full range pressure and adjust loop current to 20 mA using SPAN control.

Exhibit 8

6. Relieve pressure and allow transmitter to stabilize for 2 minutes.

7. Zero and span controls are slightly interactive, so repeat steps 4 through 6 until zero and full range pressures consistently produce currents of 4 and 20 mA respectively.

8. Remove the milliameter from the current loop and proceed with final installation of the transmitter and receiver.

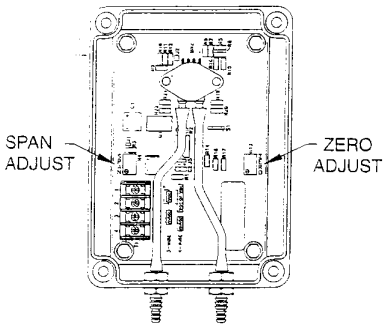

Fig. K

Voltage Input - Series 616W Transmitters can be easily adapted for receivers requiring 1-5 or 2-10 VDC inputs. Insert a 249 ohm, 1/2 watt (1-5 VDC) or 499 ohm (2-10 VDC) resistor in series with the current loop but in parallel with the receiver input. Locate this resistor as close as possible to the input. Because resistor accuracy directly influences output signal accuracy, we recommend use of a precision ±0.1% tolerance resistor to minimize this effect. See Figs. H and J.

3-Wire Connection (1-5 or 2-10 VDC Output)

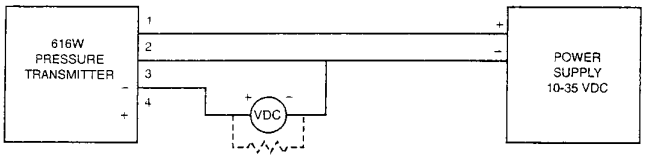

Fig. H

4-Wire Connection (1-5 or 2-10 VDC Output)

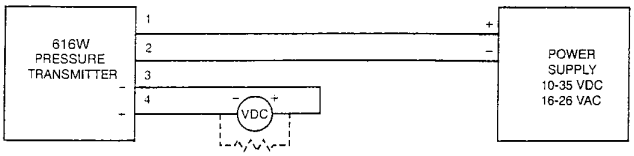

Fig. J

MULTIPLE RECEIVER INSTALLATION

An advantage of the standard 4-20 mA DC output signal produced by the Series 616W Transmitter is that any number of receivers can be connected in series in the current loop. Thus, an A-701 Digital Readout, an analog panel meter, a chart recorder, process controlling equipment or any combination of these devices can be operated simultaneously. The only requirement is that each component be equipped for a standard 4-20 mA input and the proper polarity of the input connections be observed when inserting the device in the current loop. If any of the units displays a negative or downscale reading, the signal input leads are reversed.

MAINTENANCE

Upon final installation of the Series 616W Differential Pressure Transmitter and the companion receiver, including the A-701 Digital Readout, no routine maintenance is required. A periodic check of the system calibration is recommended following the procedures explained on page 3 under Calibration Check. The Series 616W Transmitter is not field serviceable and should be returned, freight prepaid, to the factory if repair is required. Please enclose a description of the problems encountered plus any available application information. See the A-701 instructions for address.

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JOHNSON CONTROLS

Johnson Controls, Inc.
Penn Division

1302 E. Monroe St.
Goshen, IN 46526

Series A19 Temperature Controls—Single Pole Single Throw and Single Pole Double Throw Models With NEMA 1 Enclosure

APPLICATION

These temperature controls are equipped with single pole, single throw or single pole, double throw contacts. Controls with lockout require manual reset. The reset is trip-free and must be pressed and released before operation will resume. Manual reset is not available on controls with Style 3 (coiled) elements.

Controls are supplied with an adjustable range (except models with factory sealed settings) and adjustable or non-adjustable differential.

These controls are designed for operating or limit control applications. Where critical or high value products are to be maintained within a specific temperature differential, a single control should not be applied to function as both an operating and a limit control. In these applications, a separate limit control with alarm contacts should be wired to indicate when the limit control operates.

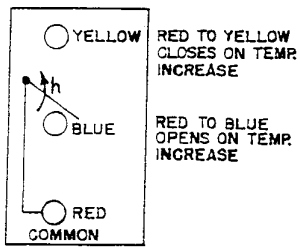
INSTALLATION

Follow equipment manufacturer's instructions if provided. If instructions are not provided proceed as follows:

Mounting: Controls are normally mounted to a surface through holes in back of case.

For closed tank applications without well assembly Part No. FTG13A-600 packing nut assembly may be supplied. See Fig. 2 for sequence of installation. Put parts over support tube section of element, placing bulb into tank. Tighten ½" NPT adapter. Screw packing nut into adapter with the retaining washers and packing in place as shown.

To install models supplied with bulb well, first install bulb well into tank. Remove bushing from bulb well and slide bushing over capillary. Replace bushing into bulb well. Push bulb into position in bottom of well. Tighten set screw in end of adapter to hold bulb in position. See Figure 3 for bulb well illustration.



Terminal arrangement of SPDT models.

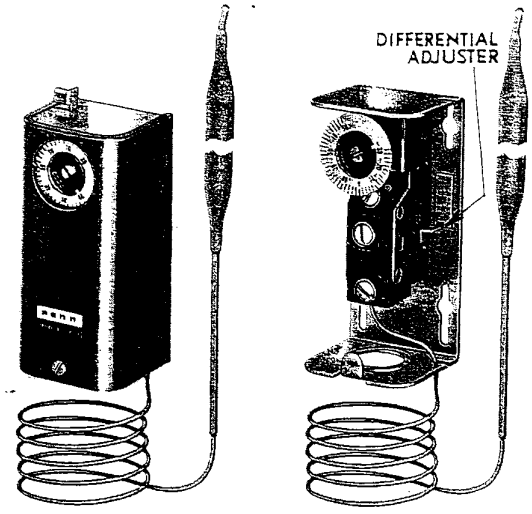


Fig. 1 — Series A19 with external range adjustment and screwdriver slot. Control on left illustrates manual reset feature. Control on right illustrates adjustable differential.

CAUTION: Do not dent or deform the sensitive bulb of this control. A dent or deformation will change the calibration and cause the control to cycle at a temperature lower than the dial setting.

ADJUSTMENTS

Series A19 temperature controls may be supplied with an external range adjustment and screwdriver slot as shown in Figure 1, range adjustment knob (Figure 4) or solid cover (Figure 5). Solid cover models with calibrated dial are adjusted by removing cover and moving dial so desired setting is in line with the slot in high limit stop bracket (see Fig. 6). Dial settings normally indicate the cutout setting unless otherwise specified by the equipment manufacturer. Models with SPDT contacts are normally set so the red (common) to blue contacts open at the dial setting.

Models with adjustable differential and ranges of 20/80° F. and -30/+50° F. have a differential scale plate showing differential in degrees. Other ranges have a scale plate (see Fig. 1) with a multiplier shown. For example when "min" differential is 5° F. then X2 is 10° F., X3 is 15° F., etc. The controls are supplied with adjusting lever at minimum differential stamped on the control. To adjust move the lever to the differential required.

Low limit or high limit stop supplied on certain models (specified by the equipment manufacturer).

If high or low limit stop adjustment is required proceed as follows:

1. Set dial to temperature at which stop is desired.
2. Remove cover of the control.
3. Slide dial limit stop to front of thermostat against step behind dial as shown in Figure 6. (Sometimes an exact stop setting is not possible and stop must be set to the closest step corresponding to dial setting required.)
4. Replace cover.

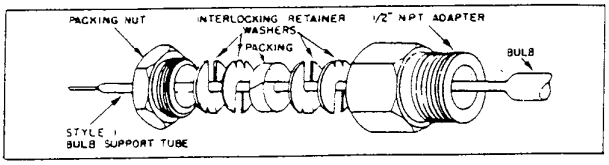
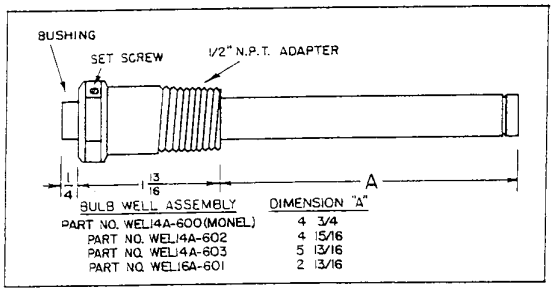


Fig. 2 — Part No. FTG13A-600 packing nut assembly. (Used with swaged bulb with support tube for direct immersion application.)



BULB WELL ASSEMBLY	DIMENSION "A"
PART NO. WELI4A-600(MONEL)	4 3/4
PART NO. WELI4A-602	4 15/16
PART NO. WELI4A-603	5 13/16
PART NO. WELI6A-601	2 13/16

Fig. 3 — Bulb well for liquid immersion applications where a temperature bulb may be removed without draining tank.

WIRING

CAUTION: Disconnect power supply before wiring connections are made to prevent possible electrical shock or damage to equipment.

All wiring should conform to the National Electrical Code and local codes. Single pole, double throw models should be wired as shown in terminal drawing on page 1. Red is the common terminal.

CAUTION: Use No. 8-32 x 1/4" terminal screws. Longer terminal screws can interfere with switch mechanism and damage the switch.

SERVICE AND CHECKOUT

Before applying power, make sure installation and wiring connections are according to job specifications.

After the necessary mechanical adjustment and electrical connections have been made, an operational checkout is recommended.

Adjust the control set point to put the system in operation and run through at least one complete cycle before leaving installation.

If the system fails to operate, recheck the wiring and components.

REPAIRS AND REPLACEMENT

Field repairs must not be made other than replacement of cover and bulb well. When ordering replacement parts or control, specify Product Number shown on the control. Replacement controls may be obtained from the nearest Penn-Baso Wholesaler.

Fig. 4 — Series A19 Space Thermostat with range adjustment knob and integral air bulb.

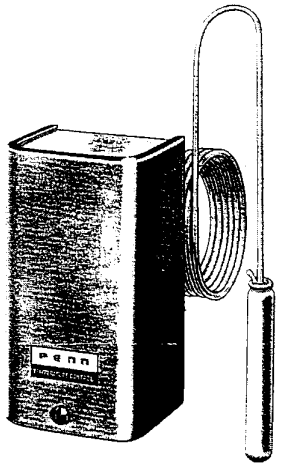


Fig. 5 — Series A19 without external range adjustment.

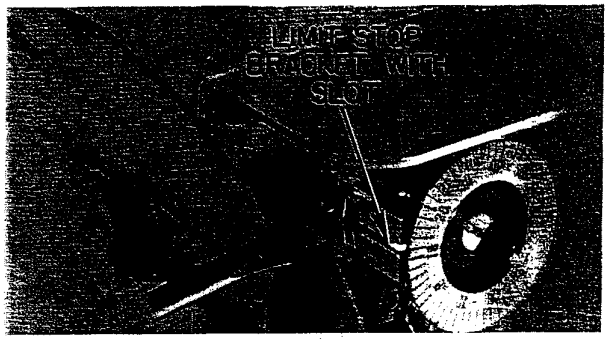


Fig. 6 — Sliding stop to front of thermostat to set limit stop.

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